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XII.—*On some Waxed Tablets said to have been found at Cambridge.*

By T. M'Kenny Hughes, *Esq.*, *M.A.*, *F.R.S.*, *F.S.A.*

Read June 20, 1895.

Close to the inner margin of the King's Ditch at Cambridge, which until quite recently was the only ditch known to exist, excavations were lately made for the foundations of Messrs. Fosters' new bank. The ditch which runs along Hobson Street was only just touched, but there was at this spot a large quantity of sand and gravel. This had apparently been thrown out of the ditch, which here skirted the edge of an extensive gravel bed. No water passed through this dry subsoil from any side, and the area was soon built over, so that no rain fell into it. These were, therefore, conditions very favourable for the preservation of perishable materials.[a]

Among the large quantity of fragments of pottery and other antiquities which were discovered during the excavations was the set of tablets which forms the subject of this paper. It is not improbable that the tablets may have had a case[b] which would have protected the wood and wax inside for a very long time. They were brought to me by a workman, who told me whereabouts he had found them, and I saw no reason, from their state of preservation or from the character of the objects said to have been found associated with them, to doubt the accuracy of the information he gave me.

[a] *Proceedings of the Cambridge Antiquarian Society*, viii. 41.

[b] See below, pp. 260, 261.

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This codex,[a] or set of tablets fastened together, consists of six pieces, that is to say, there are four[b] leaves incised on both sides, and two covers incised on the inside only.

Du Méril[c] has collected many references to the number of pages in the waxed tablets used for "albums" or note books in the eleventh and twelfth centuries.

Baldric,[d] abbot of Bourgueil in Anjou, has left the following interesting description:

> Attamen in vobis pariter sunt octo tabellæ
> Quæ dant bis geminas paginulasque decem.
> Cera namque carent altrinsecus exteriores,
> Sic faciunt octo quattuor atque decem.

That is to say, the eight leaves gave sixteen pages; but, as there was no wax on the outside of the cover, there were only fourteen pages available for writing on.

He adds that the Roman note-books were not so large, quoting Plautus:[e]

> Novi edepol nomen, nam mihi istoc nomine,
> Dum scribo, explevi totas ceras quattuor.

The codex in the tomb of Jucundus[f] appears to have had four leaves. Those found at Memphis and in the tomb of Soteris had five, like that of which Martial[g] speaks:

> Quincuplici cera cum datur auctus [altus] honor.

The Cambridge specimen has therefore rather a large number of pages, viz. ten, not counting the outsides, and it is not certain that I secured all there were.

The form of the tablets has been described by various writers. Pignoria[h]

[a] Seneca, *De Brevitate Vitæ*, 13.

[b] By some mistake the number of leaves is given as *two* in the original notice of the discovery, probably by repetition of the word *two* from near the beginning of the same line.

[c] *De l'usage non interrompu jusqu'a nos jours des tablettes en cire* (Paris, 1862), 103, 104.

[d] Mabillon, *Librorum de Diplomatica Supplementum*, 51.

[e] Curculio, 409, 410, ed. Teubner.

[f] Wilthemius, *Diptychon Leodiense*, *Append. de Pugillaribus Veterum.*

[g] *Epigrammata*, bk. xiv. ep. 4.

[h] *De Servis*, Amst. 1674, p. 220; see also Saumaise, *De Modo Usurarum*, p. 460, Leyden, 1639; Wilthemius, *Diptychon Leodiense*, *Append. de Pugillaribus Veterum;* Schwarz, *De Libris plicatilibus Veterum*, Altorph, 1717; Walch, *De Pugillaribus Veterum*, Iena, 1756.

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says, "Pugillarium vero forma fuit oblonga et quadrata, eminente quadam margine circumcirca conclusa ut vidimus Romæ in veteri arca sepulchrali, in hortis Cyriaci Matthæi."

Our Cambridge codex measures a little more than $2\frac{1}{4}$ inches in length by $1\frac{1}{4}$ inch in width; the thickness of the covers being about $\frac{1}{8}$ of an inch, and of the middle part of the leaves sometimes not more than $\frac{1}{30}$ of an inch, but we must allow for shrinkage.

The incised portion of most of the pages is still covered with a black wax-like substance.[a] Unfortunately there had been an attempt to clean them before they were brought to me, and most of the wax was removed either then or previously. On some of that which remains characters, apparently inscribed with a style, are still visible.

The writing appears to be in a cursive hand, and here and there a few letters seem to lend themselves to the terminations of some Latin verbs, but they have been obscured by the accidental cracks in the wax originating in and prolonging the lines of the incised letters, and perhaps sometimes following the lines of older writing partly erased, so that no one has yet been able to decipher it. Professor J. B. Mayor reads the ending "cit" and the word "licentiam" on one of the leaves.

These tablets agree very closely with those in the library of St. Germain de Prés described below.[b]

The remains associated with the Cambridge tablets I referred to the late thirteenth or early fourteenth century.[c] The French examples which so closely resemble them range in date from 1256 to 1308.[d]

Tablets were made of various kinds of wood: box,[e] beech,[f] sycamore,[g] maple,[h] lime,[i] lemon,[j] pine,[k] cedar, which were often stained of different colours,[l] and

[a] See below, p. 264.

[b] Pp. 273, 274.

[c] *Proceedings of the Cambridge Antiquarian Society*, viii. 42.

[d] See below, p. 273.

[e] Du Méril, *op. cit.* 92; *Ambr. Traversarii Epp. ed. Mehus*, A.D. 1430, pp. 300, 534; Propertius, iii. 23, 8; *Aurelius Prudentius peristephanon hym.* ix. v. 49, p. 385 ed. Dressel.

Martianus Capella, *De Nuptiis Mercurii et Philologiæ*, bk. iii. p. 258; ed. Kopp "*cera fago illita.*"

[f] The Memphis tablets.

[g] Ovid, *Amorum*, bk. i. xi. 28.

[h] Dion Cassius, bk. lxvii. c. 15; bk. lxxii. c. 8.

[i] Martial, *Epigr.*, bk. xiv. ep. 3.

[j] Plautus, *Persa*, v. 248.

[k] Asconius, *in Ciceronem*, 56.

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were ornamented in horn, ivory, and the precious metals. Some of the tablets were made of ivory,[a] or even of metal. Sometimes the covers only were of ivory, which was often richly carved[b] and mounted in silver and gold.

The Cambridge tablets were made of a close-grained hard wood, but as they showed no holes for string or any marks of clasps or other fastening attached to the wood it seems probable that they were enclosed in a case,[c] and there would have been some means of fastening this up and perhaps attaching it to the girdle.

The "wax" had to be carefully compounded, for ordinary wax alone does not readily lend itself to such uses. It was probably mixed with pitch, or some resin; when tar was unknown.[d]

The tabletiers[e] of Paris formed a sort of guild or recognised body of tradesmen and were forbidden to mix tallow or other inferior material with the wax.

Dreyhaupt[f] has given the receipt for the composition which was used in the renewal of the Lehn tafel in 1681.

The preparation should be somewhat softer than wax, but in almost all old specimens it has got hard and crumbled away.

On some tablets of late date, however, the wax remains soft, as in the case of those from Ratisbon, now in the National Museum at Munich, or some of the later specimens from Halle, on which the wax is too soft and does not properly adhere to the wood. For this reason highly polished wood or metal was less suited for tablets than material having a rougher surface to which the soft wax would readily adhere.

The Cambridge tablets are covered with a black wax-like composition now dry and hard, cracking and flaking off. I hope to have some of it analysed, but wait for further advice before I remove any portion for this purpose.

Du Méril calls attention to the distinction between *ceratæ* and *cereæ*, quoting Jean de Gênes, a writer of the thirteenth century, who, in his *Catholicon*, remarks,

[a] Martial, bk. xiv. ep. 5.
Demosthenes, *Opera*, 1132; Bekker, *Anecdota*, i. 278; Du Méril, *op. cit.* 90; Thompson, 19.

[c] *Corpus Inscript. Latt.* iii. 922, 938.

[d] Pollux, *Onomast.* x. 57.

[e] Pollux, *Onomast.* viii. c. 58; Étienne de Boileau, *Livre des Métiers*, (ed. Depping, 1837), 173; Book of Rates (Stenerolle); De Boileau, *op. cit.* 173.

[f] *Beschreibung des Saalkreises*, s. 105.

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"Ceratus et Cereus differunt quia Cereum est quod totum ex cera constat, sed Ceratum quod vel linitum vel incrustatum est cera, unde Ceratæ dicuntur tabulæ in quibus scribitur."[a] But he was only explaining why *ceratæ* was the proper word to apply to them as it does not appear that they were ever made wholly of wax.

The composition is, however, in common language, spoken of as wax, and the tablets called waxed tablets or, for short, wax tablets.

John Ruysbrock, 1381, wrote "in tabula cerea."[b]

Said to have been found in the same place, and brought with the tablets, were a small brass chain and clasp such as would have served to suspend the tablets, or more probably the ornamented leather case or perpendiculum which held them suspended from the girdle after the manner of a chatelain.[c] The folded plate is enlarged at the back into a socket much like that intended to hold the pencil in modern diaries and pocket-books.

Some tablets containing merchants' accounts of the end of the thirteenth or the beginning of the fourteenth century were found in a hole in the outside wall of a tower in the house of Camillo Majorfi, at Florence. They were of beechwood, coated with black wax and had a place for inserting the style.

The leather cases for keeping the tablets in were frequently mentioned. They appear to have varied much in pattern and amount of ornament: "sicut videtur in tabulis Scotorum."[d] Baldric[e] speaks of the little bag given to him by the abbot of Séez for the same purpose.

There was also found with the Cambridge tablets a small metal case, about $1\frac{1}{4}$ inch in length and tapering from $\frac{1}{2}$ to $\frac{1}{4}$ inch in diameter. This enclosed the remains of some coarse hair stuff. It is ornamented round the thicker end with fan-shaped *repoussé* work and, at a little less than $\frac{1}{2}$ inch from the existing end, has a line impressed all round, on either side of which is a series of holes, some of which are still filled with small lead plugs. This object may have had a style at one end, and at the other a rubber for smoothing the wax,[f] as referred to in the expression *vertere stilum*, and more fully in the lines

[a] Du Méril, 112.

[b] Toppens, *Bibl. Belg.*, ii. 721; Henr. a Pomerio.

[c] *Sitzungsberichte der Münchener Akademie*, 1873, s. 720. Sacken, *Die Ambraser Sammlung*, ii. 258. Aldhelm, *Anzeiger der Vorzeit*, vii. 38; *Opera* (*ed. Giles*), 263; Du Méril, *op. cit.* 95, note 1.

[d] Cod. St. Gall., 242, v. 3.

[e] Mabillon, *Suppl.* 51.

[f] Suetonius, s v. Caius, ch. xx.; s. v. Augustus, ch. lxxxv.

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> De summo planus, sed non ego planus in imo:
> Versor utrimque manu, diverso et munere fungor:
> Altera pars revocat quidquid pars altera fecit.[a]

If, however, the hair stuff was originally the outside material and not mere padding, this may have been the equivalent of our pen-wiper and been used for cleaning the point of the style.

It must have been a very common and well-known thing that could impress on the languages of Europe such a variety of words, the secondary uses of which go on for ever.

We speak, not only of a man's style of writing, but his style of delivery, or even his style of dress; while the French, taking the Latin form of the Greek word, are quite familiar with the use of *graiffe* or *greffe*, though with changed meaning. The instrument for writing which succeeded the style has hardly left any mark, except on the language of slang, in such expressions as "quill driver," for one much given to writing, such as a lawyer's clerk, and already the quill is almost superseded by the steel pen.

In such a climate as ours, it is only in very exceptional circumstances that we could expect to find objects of wood, and wax, and leather remaining undecomposed in the ground for any length of time.

The Cambridge tablets were buried in dry sand, cut off from water runs or falling rain. Some Irish specimens were found in peat, the antiseptic property of which is known to preserve organic matter from decay. Mineral waters are said to have helped to preserve the tablets found in the Transylvanian mines, though I have been unable to learn how; perhaps they were coated with travertine, or perhaps the waters were strongly impregnated with iron, converting the wood into something like bog oak.

Though actual specimens of wax tablets have never been found in this country, and our Cambridge codex seems to be quite unique, there is plenty of evidence of their use from very early times, and it may, therefore, perhaps be useful to put together such notices as seem to refer to similar objects, pointing out in what particulars they agree or differ.

[a] Meursius, *Phœdrus*, appendix, 1615, Symposius; Riese, *Anthol. Lat.*, I. No. 286.

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St. Augustine[a] had on one occasion, contrary to his wont, taken parchment to write his letter on, and excuses himself for doing so in the following words: "Non hæc epistola sic inopiam chartæ indicat, ut membranas saltem abundare testetur. Tabellas eburneas quas habeo, avunculo tuo cum litteris misi. Tu enim huic pelliculæ facilius ignosces, quia differi non potuit quod ei scripsi, et tibi non scribere etiam ineptissimum existimavi. Sed tabellas, si quæ ibi nostræ sunt, propter hujusmodi necessitates mittas peto."

There is evidence that wax tablets were used among the Anglo-Saxons. In the seventh century, or the early part of the eighth, Aldhelm[b] makes the pugillar the subject of one of his riddles. In the *Benedictional of Aethelwold*, written in England towards the close of the tenth century, is a picture of Zacharias (Luke i. 63) writing with a style on a large wax tablet.[c] He is portrayed in the same way in the *Psalter* of Bishop Warmund, of Ivrea, and many other places. One of the companions of St. Boniface sent a silver style (*graphium argenteum*) as a present to the Abbess Eadburg.[d] In Wright's *History of Domestic Manners and Sentiments in England*,[e] there is a representation of an Anglo-Saxon with wax tablets.

There is a curious story told of John Erigenes, a monk at Malmsbury, being killed by the boys whom he was teaching, which shows us at any rate that it was considered a usual thing for each boy to have a style.

"Munificentia regis Anglorum Elfridi electus (Johannes Scotus) venit in Angliam, et apud monasterium Malmesberiense a pueris quos docebat, graphiis, ut fertur, perforatus etiam martyr æstimatus est."[f] So also St. Felix.[g]

There are many examples of this use of the style for attack or defence, notably that of Cæsar mentioned below.

Eadmer says, that Anselm,[h] archbishop of Canterbury (1109), habitually wrote the rough sketch of his works upon wax tablets.

[a] *Ep.* 15, alias 113, *ad Romanianum*, *Opera ed. Maur*, ii. 19; Migne, *Patrolog. Lat.* xxxiii. 80; Wattenbach, *Das Schriftwesen im Mittelalter*. 2nd ed., Leipsig, 1875, p. 45.

[b] Gesta, 709; *Anzeiger der Vorzeit*, vii. 38; *Opera* (*ed. Giles*), 263; Wattenbach, *op. cit.*

[c] *Archaeologia*, xxiv. pl. 27.

[d] Boniface, Ep. 75 (ed. Jaffé); Wattenbach, *op. cit.*; Du Méril, 94; *Maxima Bibliotheca Veterum Patrum*, xiii. 73.

[e] London, 1862, pp. 96, 439.

[f] Albericus, *Trium Fontium*; *Chronicon*, *Ann.* 878.

[g] B. 1, *fonds de St. Victor*, No. 12, fol. 29 col. 2; Du Méril, 101

[h] *Life of Anselm*, Book I. p. 6, ed. D. Gerberon.

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In Chaucer we read:

> His felaw had a staf tipped with horn,
> A pair of tables all of ivory,
> And a pointel ypolished fetisly.[a]

and further on

> He planed away the names everich on,
> That he before had written in his tables.[b]

Du Méril[c] not catching our use of *all* in the above passage, as in the expression "a knight all gold," quotes the lines:

> Et quand à l'escole venaient,
> Les tables d'ivoire prenoient.
> Adonc lor véissiez escrire
> Letres et vers d'amors en ivre.[d]

and remarks in a note "Cela prouve qu'il ne faut pas prendre à la lettre les vers de Chaucer 'His felaw .... fetisly.' Le fond des tablettes était en cire."

That rough accounts were entered on wax tablets and afterwards more carefully copied out is clear from the Boke of Curtasye;

> At counting Stuarde schalle ben,
> Tylle alle be brevet of wax so greene
> Wrytten into bokes, without let,
> That before in tabuls have been sett.[e]

Baldric,[f] abbot of Bourgueil, 1107, and afterwards archbishop of Dol till his death in 1130, mentions his little tablet covered with green[g] wax for pleasantness to the eyes, not with black as was usual.

[a] *Canterbury Tales*, "The Sompnoures Tale," l. 7324.

[b] *Ib.* l. 7342.

[c] Du Méril, *op. cit.* 110

[d] Floire et Blanceflor, v. 251.

[e] MS. Sloane, ed. J. O. Halliwell (Percy Society), 22; ed. F. J. Furnival (E. E. T. S., O. S. No. 32), 316, l. 535.

[f] Wattenbach, *op. cit.*; Du Méril, *op. cit.* 103.

[g] Mabillon, *Librorum de Diplomatica Supplementum*, 51.

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Du Méril notices that the tablets "qu'on a conservées dans les archives municipales de Hanovre sont d'un vert obscur, probablement sali par le temp."[a]

Red wax may have been also used. A medieval scholiast explains the *croceæ membrana tabellæ* "propter rubram ceram vel de buxo factæ."[b] We must, however, remember the custom of marking in red any passage to which it was thought necessary to call especial attention; hence *rubrics*.[c]

Tablets with writing in the Anglo-Saxon character of the fourteenth and fifteenth centuries were found in a bog in Ireland,[d] in which they were probably preserved by the peat.

St. Mochteus[e] was said to have been taught by means of a *ceraculum* brought by an angel, and Du Cange[f] quotes another passage, from which it appears that waxed tablets known as *ceracula* were used by Irish monks.

In the British Museum there are two roughly-made wooden tablets from Egyptian tombs, the inner sides of which are covered with a very thin layer of uncoloured wax.[g] Others with demotic writing are preserved in the Liverpool Museum.[h]

There are not many Greek tablets[i] known; a few are, however, to be found in the British Museum, the Bodleian Library, and some other collections. They are nevertheless known to have been used. For instance, it is recorded that the account of the expenses of building the Erechtheum was kept in the rough on waxed tablets, then copied on papyrus, and finally cut in marble.[k] There were various names for them: δέλτος, δελτίον, δελτίδιον, πτυκτίον, πυκτίον, πυξίον, πίναξ, πινακίς, γραμματειον; or they were named from the number of their leaves δίθυροι, δίπτυχα, τρίπτυχα, πεντάπτυχα, πολύπτυχα, each of which had its Latin equivalent,[l] and the Latinized word *diptycha*, corrupted into *diptica* and *dictica*, continued in use for writing tablets throughout the Middle Ages; the last word finally sug-

[a] Wehrs, *Vom Papier*, 30; Du Méril, *op. cit.* 104.

[b] Juvenal, vii. 23; *Catal. codd. Colon.* 145

[c] Du Méril, *op. cit.* 102.

[d] Todd, *Trans. R. Irish Acad.*, vol. xxi; *Antiquities*, p. 3.

[e] *Acta Sanctorum*, Life of St Mochteus, Aug. iii. 743.

[f] Du Cange, *sub voce*; Du Méril, *op. cit.* 99.

[g] Rumpf, *Verhandlungen der Würzburger Philologen-Versammlung*, 1889, s. 239-246.

[h] Du Méril, *Etudes*, 89, 506.

[i] Montfaucon, *Pal. Græc.* 34; Thompson, *Encycl. Brit.* xviii. 143, *sub voce* Palæography; Homer, *Iliad*, vi. 169; *Thesmophoriazusæ*, 770-775; Pollux, *Onomast.* x. 57.

[k] Rangalié, *Ant. Hell.* I. s. 52, 80; Wattenbach, *op. cit.* 66.

[l] Martial, xiv. 4-6.

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gesting a false derivation.[a] In an English vocabulary[b] of the fifteenth century we find "*diptica*, a small tabyle."

The Romans had their *tabulæ*, or *tabellæ*, or *cereæ*. Reference is frequently made to the *pugillares*, which were used for notes delivered by a messenger who brought the answer back on the same tablet.[c]

In 2 Kings xxi. 13, the completeness of the destruction of Jerusalem is illustrated by reference to the obliteration of writing on a wax tablet, and as this passage has been translated into one language after another through the ages, we see what terms were used in each :

"Delebo Jerusalem, sicut deleri solent tabulæ, et delens vertam et ducam crebrius stylum super faciem ejus," which in French of the twelfth century was rendered, "la destruerai e abaterai e aplanierai, si cume l'un sult planier tables de graife."[d]

Habakuk, ch. ii. v. 2 : "Et respondit mihi Dominus, et dixit scribe visum, et explana eum super tabulas."

Isaiah, ch. xxx. v. 8 : "Nunc ergo ingressus scribe ei super buxum."

Such writing material seems to have been commonly carried about. In a representation of the murder of Cæsar the conspirators hold styles in their right hands and in their left huge waxed tablets, and Cæsar,[e] trying to defend himself with one, stabbed Cassius in the arm with it. There are plenty of references in classic writers to writing on wax tablets, and many figures of speech are drawn from these necessary appliances and the customs connected with that mode of writing.[f] "You have given back its honey to the wax," exclaimed Eucherius on reading a letter from Honoratus.[g]

Ausonius dictated his works to a secretary who in the first place wrote them on wax tablets. Wright has illustrated the transcribing of wax tablets into a book by a reproduction from the fifteenth century tapestry at Nancy.[h]

[a] Du Cange, *sub voce*; *Vocab. rerum de a.* 1433; *Mone. Anz.* viii. 251.

[b] Wright, *Volume of Vocabularies*, 1857, s. 210.

[c] Cicero, ad Fam., vii. 25; Seneca, Ep. 15.6; Propertius, I. ii. 22; Juvenal, ix. 36; and a scholiast quoted by Facciolati.

[d] *Livres des Rois*, 421; Wattenbach, 64.

[e] Jenenser, *Cod. ott. Fris.*; Thompson, *Encl. Brit.*; Seneca, *De Clementia*, bk. i. ch. xiv.; Plutarch's Lives, *Caius Gracchus*, ch. xiii. p. 1003, ed. Didot; Suetonius, *Caius*, ch. xxviii.; Suetonius. *Julius Cæsar*, ch. lxxxii.

[f] Du Méril, *op. cit.*, 91, footnotes 4, 5.

[g] Hilarius of Arles; De Sancto Honorato, *Oratio funebris*, Migne, p. 1261.

[h] *History of Domestic Manners and Sentiments in England*, 439.

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In 1875 there were 127 wax tablets found together in a box under the ashes and the ruins of a house at Pompeii.[a] These were only documents referring to sales and taxes of little interest in themselves.[b] They differed from the Cambridge codex in that in the Cambridge tablets every available side, except the outside of the cover, was waxed, but in those from Pompeii several pages were of plain wood and some of these written on with ink. Indeed, as pointed out by Du Méril,[c] where the character of the tablet is not specified we have no right to assume that they were always waxed tablets. Not only have we examples of the waxed tablets but specimens of the styles used have been found at Herculaneum and elsewhere.[d]

Among the few specimens of Roman tablets preserved to our time are those which were discovered in the gold mines at Abrudbanyam, in the Siebenbürgen, Verespatak (Alburnus Major) in Dacia, Transylvania, where they appear to have been purposely hidden at the commencement of the war with the Marcomanni. Twenty-five of these are known and have been reproduced by Dr. Zangmeister.[e] One is dated 129, another 142, another 162, another 167.[f]

A bas-relief of the time of Trajan represents the burning of the tablets[g] on which the taxes were entered.

According to Du Méril, they are found in tombs of Gallo-Roman age,[h] and in Frankish cemeteries.

[a] Thompson, *op. cit.*, 19, 24-5.

[b] *Atti della R. Academia*, ser. ii. vol. iii. pt. 3, 1875-6, pp. 150-230; Hermes, vol. xii. 1877, pp. 88-141; Overbeck, *Pompeji*, 4th ed. by Mau, 1884, pp. 489 *et seq.*; Zangmeister, *Corpus Inscript. Latt. Pal. Soc.* i. vol. iii. pl. 159.

[c] Du Méril, *op. cit.* 90, footnote 5. [d] *Ib.* 93.

[e] *Corpus Inscriptionum Latt.* iii. 933.

[f] Du Méril, *op. cit.* 88, Ciparin, *Archäologische Anzeiger*, No. lxxxviii. 1856; Detlefsen, Sitzungsberichte der K. Akad d. Wissenschaften Wien, t. xxiii. 636, 650; Erdy, *Mém. de l'Acad. Hongroise*, 1856, *et De Tabulis ceratis in Transylvania repertis*, Pesth, 1856; Massmann, *Libellus aurarius*, Lips. (1841).

[g] Du Méril, *op. cit.* 85; Massmann, Libellus aurarius, 4to, Leipsig (1841); Rechtswissenschaft, t. xii. cap. ii. pp. 173-219; *Monumenti inediti*, ix. (1872), t. 48.

[h] Du Méril, *op. cit.* 94; Cochet, *Normandie Souterraine*, 106, 107, 122, 132, 2nd ed.; Ladoucette, *Hist. et Topog. des Hautes Alpes*, 409, 412; Bonnin, *Antiquités Gallo-Romaines des Éburoviques*, pl. xxxvi. figs. 5 and 6; see also the specimen found at Héronval, in the Museum of Cluny; *Revue Archéologique*, New Series, i. 328; Claude de Molinet, *Cabinet de la Bibliothèque de Sainte Geneviève*, 22; Cochet, *Le tombeau de Childéric*, 215; Cochet, *Normandie Souterraine*, 298, 350; Corrard de Breban, *Mém. de la Soc. d'Agric. de l'Aube*, 1853.

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In the sixth century St. Benedict, in the rules of his order, prescribed that the abbot should supply the monks with *graphium et tabulas*, while the obligation of having tablets ready for use is frequently mentioned, even as late as the fifteenth century.[a]

That they were in common use throughout the Middle Ages is evident, from references which took for granted that the readers understood all about them, and from the mention of presents of the tablets, or something useful in connection with them, as nowadays we give writing-desks, inkstands, or gold and silver-mounted pens.[b]

A good style or *graphium* was regarded then as a good pen is now by anyone who is fortunate enough to have one. Baldric, mentioned above,[c] wrote with the same style for ten years, and when at last it broke he bewailed its loss in a touching poem. This may have been the very pen which was made for him by Lambert of Angers.

Charlemagne[d] and those about him[e] used wax tablets, and it has even been supposed that the richly-ornamented ivory tablets, presented by Bishop Salomon of Constance to St. Gall, were the very ones which Charlemagne used[f]; and, though the fact that Charlemagne generally carried *tabulas et codicillos* has been questioned,[g] it was not on the ground that such things were then unknown or uncommon.

Shortly before the year 1120 Abbot Hariulf of Oudenburg, writing the life of Bishop Arnulf of Soissons, took down the words of his informant, Everolf, "in cera, ut ea atramento in chartis conscriberem."[h]

In 1148 Abbot Wibald writes to Pope Eugene, "Quæ vero post exitum nostrum acta sint, ex litteris, quas quidem frater Fuldensis nobis non in membrana scriptas, sed in tabella transmisit, cognoscere poteritis; quas ad vestræ sanctitatis pedes transcriptas direximus."[i] The letter could not well be sent to the Pope in this form, and was therefore transcribed and the copy enclosed.[j]

[a] Rockinger, *Zum baier. Schriftwesen*, s. 9; Wattenbach, *op. cit.* .

[b] Seneca, Ep. lxxxvii.; Boniface, Ep. 75, Jaffé; Du Méril, 94; Wattenbach, *op. cit.* 15.

[c] Mabillon, *Librorum de Diplomatica Supplementum*, p. 51.

[d] Einhard, *Vita Kar.* c. 25; *Visio domi Karoli*, Jaffé, Biblioth. iv. 701.

[e] Theodulf, *Ad Carolum regem*, v. 148.

[f] Ekkehard, *Casus S. Galli.*, Mon. Germ. ii. 88; Wattenbach, *op. cit.* 53.

[g] Einhard, *Vita Caroli Magni*, ch. xxv.; Du Méril, *op. cit.* 99.

[h] *Acta SS.*, Aug. iii. 229.

[i] Jaffé, *Biblioth.* i. 221.

[j] Wattenbach, *Op. cit.* p. .

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In the fifteenth century, at Audechs, every monk was obliged to have in his cell "tabulam cereatam cum graphio."[a]

There are plenty of references to the use of wax tablets on the Continent throughout the middle ages, from the fifth to the fifteenth century, and less commonly to the seventeenth century, and in one case at any rate to the present day. We read also of a letter which was altogether concealed by the Abbot of Cahors, in 585, under the wax upon a tablet;[b] and of a slave, in 613, who had a tablet about him on which he stuck the pieces of a torn-up letter so that they could be read.[c] So that it is clear that the tablets continued in use as well as papyrus or parchment, and in fact they were generally employed only for memoranda of temporary interest, for schoolboys' exercises,[d] as they were in the time of Quintilian,[e] or for rough drafts of letters or other documents which were afterwards transcribed in ink.[f] Baldric mentions in one of his poems the two clerks who transferred his finished poems to parchment.[g] There are, however, cases recorded in which works of greater importance were written by their authors on waxed wood.[h]

Abbot Guibert, of Nogent (A.D. 1104—1124), in his autobiography, tells us how, in an old sewer connected with St. James's church school at Lübeck, wax tablets were discovered with fifth-century school exercises on them, and also some styles.[i]

[a] Rockinger, *Zum baier. Schriftwesen*, s. 9; Wattenbach, *op. cit.*

[b] Greg. Tur. vii. 30.

[c] Fredegar, *Chron.* c. 40; Wattenbach, *op. cit.* 55.

[d] Du Méril, p. 10; Wattenbach, *op. cit.* 58, 63; Th. Wright, *The Latin poems commonly attributed to Walter Mapes* (Camden Soc. 14), p. 130; "Pinax est manualis, ein hant-taphel," Diefenbach, *Gloss.* 213; Pugillar is similarly explained, s. 227.

[e] *De Institutione Oratoria*, bk. I. ch. i. 27 and bk. I. ch. iii. par. 31; see also Horace, *Sat.* i. vi. 74; Juvenal, *Sat.* i. l. 63 and *Sat.* xiv. l. 191; Martial, *Epig.* xiv. 21.

[f] Canisius, *Lectt. Ant.* vi. 648; Wattenbach, *op. cit.* 57; Keil, Erlanger, *Programm*, 1868, s. 20.

[g] Mabillon, *Librorum de Diplomatica supplementum*, 51; Wattenbach, 62.

[h] St. Nilus (1005 A.D.), *Acta SS.*, Sept. vii. 295; Mone, *Anz.*. vii. 505; Carmina Burana, e cod. Vindob., 3356, s. 251; Opera Hildeberti, ed. Beaugendre, p. 1623; Carmina Burana, p. 73; Eberhard of Bethune Laborinthus, iii. 292; French Romance of Floire at Blanceflor Édélestand du Méril; *Orologe de la Mort*, fourteenth century, Wattenbach, *op. cit.*, 64; Busch, 1478; Du Méril, 507, ex Chron. Windeshem, ii. p. 587; Engelhardt, 1818 *Hortus Deliciarum* of Herrad von Landsberg, 1167, 1195, pl. 8.

[i] *Zeitschrift des Vereins für Lüb. Gesch.* ii. 556; cf. *Anzeiger d. Germ. Mus.* 1866, Sp. 388; *Zeitschrift*, iii. 8.

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They were still in use in Nuremberg in 1485.[a]

From the facility with which corrections could be made on wax tablets, they were used in schools down to a late period, just as slates are nowadays, and we find constant references to this in ancient writers.[b]

This was the reason why clerks and lawyers, and all who wanted opportunity for easy corrections, wrote their drafts on wax tablets. Wilibaldus wrote the first sketch of his Life of St. Boniface on wax that he might submit it for correction to two learned friends before copying it out finally.[c] So also what Everolph[d] dictated was first taken down on wax tablets. St. Bernard[e] and St. Anselm[f] wrote first, at any rate, on wax.

Tablets were also used for tracing designs and patterns. "Habeat autem discipulus ejus rudis tabellam ceratam vel ceromate unctam, vel argilla oblitam, ad flosculos pretrahendos et depingendos variis modis, ne in offensione procedat."[g]

There are examples of wax tablets and parchment being used together. The "Giltbachlein" of Nurenberg castle and the territories appertaining thereto, dating from the end of the fourteenth century, consists of eleven tablets, the front of each one divided diagonally and coated with wax, the back overlaid with parchment.[h] This reminds us of the tablets found at Pompeii, which were partly covered with wax on which the writing had been inscribed with a style, while some of the pages were of plain wood, which had been written on with ink.

A similar arrangement is seen, according to Wattenbach, on the wax tablets of the monastery of Unterlinden.[i]

When Abbo, abbot of Fleury, heard in 1004, in the priory of La Reolle on the Garonne, the noise of the riot in which he lost his life, he was seated at his

[a] Heerwagen, *Zur Geschichte der Nürnberger Gelehrtenschulen*, s. 6, in a programme of 1863.

[b] Martial, *Epig.*, xiv. 7; Jerome, *Epist.*, cvii; *Opera*, vol. i. col. 675, ed. Vallarsi; Isidori, *Originum*, lib. vi. ch. ix.

[c] S. Bonifacii, *Vitæ a Willibaldo scriptæ. Acta Sanctorum*, June, bk. i. p. 476.

[d] Surius, *Vitæ Sanctorum*, August, 156. *Cf.* Guibert de Nogent, *De Vita Sua*, bk. i. ch. 16; *Opera*, p. 477.

[e] Ernaldus, *S. Abbatis* [*Bernardi*] *Vita*, bk. ii. ch. 8; S. Bernardi, *Opera*, curis Mabillon, 4th ed. p. 2185.

[f] Eadmer, *S. Anselmi Vita*, lib. i. cap. 3; *Acta Sanctorum*, April, vol. ii. p. 872, col. 1.

[g] Wright, a volume of vocabularies, p. 118, *De utensilibus.*

[h] Baader, *Anzeiger des Germ. Mus.* xii. 101.

[i] *Revue d'Alsace*, 1872, s. 574; Wattenbach, *op. cit.* 73

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accounts in the monastery, and came forth "pugillares gerens in manibus tabellas cum stilo."[a]

In 1029 the Bishop of Chartres[b] had an inventory taken of the treasures of the monastery of St. Père "in ceris, hoc est, in cereis tabulis."

In 1054 Hermann of Reichenau gave his "tabulas" to his pupil Berthold, to correct and copy whatever in them had not been already transferred to parchment.[c]

Radulfus Tortuarius, l. 1063, says in a poetical epistle to a friend:

> Nam cum missa mihi legissem verba salutis,
> Arripui ceres arripuique stylum.[d]

He complains that nowadays a poet meets with neither respect nor reward, and can not, in fact, get parchment to write on and hardly wax tablets. His stern abbot disapproved of his giving himself up to literary composition, and therefore he had to write on parchment, instead of, as was usual, first on wax tablets, on which he could have made alterations.[e]

Similar testimony to the use of wax tablets in the latter half of the twelfth century is incidentally offered by Reiner, a monk of St. Laurence, near Liège.[f]

Galbert, in 1127, giving an account of the events which occurred in connection with the assassination of Count Charles of Flanders and the siege of his castle at Brugge, says that he had to make his notes *in tabulis*, which he afterwards transcribed.[g]

Ancient MSS. and sculpture are quoted in illustration of the character of the tablets used in the *ordinarium* of Rouen cathedral; we read, "Qui ad missam lectiones vel tractus dicturi sunt, in tabula cerea scripti primitus recitentur."[h]

The most important, perhaps, of all the wax tablets which have survived from the middle ages are the accounts of the French Kings Louis IX. (1256, 1257), Philip III. (1282—1286), Philip IV. Le Bel (1301—1308), the originals of which

[a] Vita Auct. *Aimoins in Mab.* ed. Paris, vi. i. 55; Glab. Rod. iii. 3.

[b] Mab. *Annales Ordinis Sancti Benedicti*, lib. 56, iv. 352; Du Méril, 106.

[c] M. G. SS. v. 269.

[d] *Epist.* ix. 3; *Bibliothèque de l'École des Chartes*, 4me Sér. i. 512, see also 502.

[e] Guib. Novig., *de Vita Sua*, i. 16; *Opera* (ed. d'Achery), 477; Wattenbach, *op. cit.* 60.

[f] Reiner, *de Vita Sua*, ii. 2, 6, B; Pez. Thes. *Anecd.* iv. 3, 34, 37.

[g] *Mon. Germ.*, ss. xii. 580; Wattenbach, p. 66.

[h] *Ordinarium, Rouen*, ed. Jean Prevôt, 261.

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are preserved at Florence, Geneva, and Paris.[a] They have been described of late years by MM. de Wailly and L. Delisle. An excellent facsimile, by Gustavus Barry, is given of the tablets of Louis IX., which surpasses even the older Benedictine facsimile of the St. Germain tablets of 1307.

In Franklin's[b] history of the library of Saint-Germain-des-Prés he mentions:

Des tablettes de bois, enduite de cire. "Il y a," dit Dubreul,[c] "huict tablettes de bois, longues chacune de treize pousses et large de cinq, cirées des deux costez. Et sur la cire, de l'escriture faite avec le poinson ou burin proprement dit *graphium*. De laquelle une partie se peut encore lire. Qui nous monstre *quomodo veteres scribebant in ceratis tabulis.*" Ces précieuses tablettes renferment l'itinéraire de Philippe le Bel depuis le mois de janvier jusqu'en juillet 1307; elles ont été publiées par M. Natalis de Wailly, et le *fac-simile* de l'une d'elles a été reproduit dans le *Nouveau traité de diplomatique*.[d]

In the account of the Abbaye de Saint Victor[e] also, Franklin describes another similar volume of waxed tablets:

Mentionnons enfin des tablettes de bois enduites de cire et mieux conservées que celles qui existaient à la bibliothèque de l'Abbaye de Saint-Germain des-Prés. "Ces tablettes," dit Leprince,[f] "sont composées de quatorze gros feuillets, y compris la couverture, dont la partie intérieure fait le commencement et la fin. Elles sont plus longues et plus larges que celles que l'on voit ailleurs. L'on n'y rencontre presque point de lacunes. Elles contiennent les dépenses faites par Philippe le Bel pendant une partie de ses voyages, depuis le 28 Avril 1301 jusqu'au 31 mars 1302."

Du Méril,[g] whose object was to prove the continuity of the use of waxed tablets from the classic age of Greece and Rome to and through the Middle Ages, draws his examples largely from France, and quotes from contemporary documents

[a] Du Méril, *op. cit.* 107; *Recueil des Historiens des Gaules et de la France* (1855 and 1865), xxi. 284-392; *Nouveau Tr.*, i. 468; Wattenbach, *op. cit.* 66.

[b] *Les Anciennes Bibliothèques de Paris*, par Alfred Franklin, i. 131, part of the *Histoire Générale de Paris*, 4to Paris, Imprimerie Impériale, 1867.

[c] J. Dubreul, *Théâtre des Antiquités de Paris*, 289.

[d] Tom. i. 468. Voyez encore une dissertation de l'abbé Le Bœuf dans les *Mémoires de l'Académie des inscriptions*, tom. xxxiii. de l'edition in-12. There is another facsimile in the *Musée des Archives*, 140.

[e] *Ibid.* 169.

[f] Leprince, *Essai historique sur la bibliothèque du roi*, 338; Voyez encore Jordan, *Histoire d'un voyage littéraire*, p. 72, et le *Nouveau traité de diplomatique*, i. 458.

[g] *Op. cit.* 109.

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to prove the common use and knowledge of them in the twelfth, thirteenth, and fourteenth centuries. As the tentative date I am led to suggest for the Cambridge tablets is the latter part of the thirteenth, I shall quote the chief of his examples in order to show that such objects were likely to have been common at that date in such a town as Cambridge with its monasteries, colleges, and public works.

When Guillaume au Cornez[a] asked the abbot of Genres if he would receive him into his monastery the abbot inquired

Vos estes maistres, vos saves bien escrire?

to which Guillaume replied:

En parchemin et en tables de cire.

The translator of the *Miracles of St. Eloi*[b] in the twelfth, or perhaps thirteenth, century wrote:

Langemains, parchemins et chire
Fauroient ains c'on peust dire,
N'escrire ses fais, ne ses dis.

In the poem of *Gautier d'Arras*[c] Hercules says to Phocas:

Faites maitre votre briés en cire,
Sés trametes par vostre empire.

In *Floris and Lyriope*[d] we read:

Ce mestiers fust pour bien escrire
Et en parchemin et en cire.

and in *l'Orologe de la Mort*,[e] which is not earlier than the fourteenth century,

Les uns apprennent a escripre
Des greffes, en tables de cire;
Les autres suivent la coustume
De fourmer lettres a la plume,
Et paignent dessus les péaux
Et de moutons et de véaux.

[a] Moniage, v. 140, in B. de l'Arsenal, B.L.F. No. 185.
[b] Ed. of Peigné-Delacour, p. 79, col. 2.
[c] Eracles, ed. of Massmann, v. 1924.
[d] B. I. *fonds de Sorbonne*, No. 1422, p. 528, col. 2.
[e] B. I. *fonds de Sorbonne*, No. 7310[3], p. 30, col. 1. v. 4.

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In the *Mystère de la Résurrection*[a] acted in 1491, the reply of the child to the blind man, who asked him if he could read or write, was :

Oy dea ! en papier ou en cire.

Du Méril gives many other examples in which tablets or styles are referred to. I have quoted those only in which the wax is specially mentioned.

In the accounts of the municipality of Provins[b] during the thirteenth and fourteenth centuries there is frequent mention of waxed tablets.

Thomas a Campis relates how the scholars attracted to Deventer by the fame of Florentius made notes on wax tablets,[c] and in the library at Siena there are the sermons of St. Bernardine, which were taken down upon wax tablets by a pious cloth-shearer. This requires some further explanation, as it would not be easy to do this even in shorthand.[d]

Roppman gives reference to the waxed wooden folios on which the accounts of the Hamburg Exchequer were kept, 1360-1372,[e] and Rockinger records similar entries of expenditure dating from the fifteenth century in Bavarian Monasteries.[f]

Du Méril mentions that there were as many as fifty waxed tablets of medieval date in the Imperial library. There were also some at Dresden dated 1426; at Hanover 1428; and at Munich 1431 to 1442. Those in the Walraf Museum, Cologne, also belonged to the fifteenth century, while the two tablets of German origin preserved in the Imperial library cannot be referred to an earlier period than the first half of the seventeenth century.[g]

Entries of various kinds in churches and monasteries were kept on wax tablets,[h] the use of which was in some such cases carried on as late as 1722,[i] while the name, taken originally from the wax tablets, was still applied to these registers long after the material on which they were made had been changed.[k]

[a] B. I. *fonds de Sorbonne*, No. 972 (nouveau), fol. 49 vo.

[b] Bourquelot, *Bibliothèque de l'École des Chartes*, ivme série, ii. 223.

[c] *Vita Florentii*, c. 23.

[d] Tabarrini, in *Archivio Storico*, Append. iii. 521-532.

[e] Entry I, 72, 88, 164.

[f] Rockinger, *Zum Baier. Schriftwesen*, s. 9.

[g] Du Méril, *op. cit.* 107.

[h] Du Méril, s. 108; Wattenbach, *Anzeiger des Germanischen Museums*, A.D. 1867, sp. 239 Cardinal Noris, *Dissertatio de Hist. Synod*; Bingham, *Orig. Eccles.*, lib. xv. ch. 13, sec. 18; Moroni, *Erudizione Storico-Ecclesiastica.*

[i] Lalanne, *Curiosités bibliogr.* 18.

[k] Du Méril, *op. cit.* 96, 97.

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Tablets of the year 1358 have been described from Nordhausen[a]; and others from Goslar,[b] which were formerly considered to belong to the eleventh century, are referred by Wattenbach to the fourteenth.

The wax tablets at Janer[c] contain signatures of the year 1374, and those composing the day-book of the Leipsig town council[d] of about 1381 are preserved some at Leipsig and some at Schulpforta. A codex consisting of ten wax tablets at Weimar contains a summary of the revenue of the Leipsig council in the year 1420. At Dresden there is a Leipsig register of taxes[e] on wax dated 1426, and at Wittenberg ten tablets of the year 1428, which served the town council of Leipsig as a register of legal expenses.

Most of the municipal registers of Liegnitz[f] were destroyed by fire in 1338; those which are still extant date no further back than the last decade of the fourteenth century. One tablet of 1396 escaped destruction in the monastery of Sagan,[g] and from there passed to Breslau. Two tax registers of Umstadt, of 1389 and later, are now at Darmstadt.

The Erfurt table of expenditure dates from 1424 to 1426.

Some wax tablets in the Berlin library contain the accounts of the town council of Hanover[h] for 1428. These probably belong to the same series as the twelve tablets in the town hall of Hanover.

On the tablets now existing at Arnstadt[i] the costs discharged by the citizens in 1457 are recorded. Some fifteenth century accounts from Goetweih[k] are now in the Austrian museum, while others are preserved at St. Gall.

At Strassburg[l] the tablets containing the accounts of the common receipts and expenditure of the city (the Pfennigthurm accounts), which survived to the year 1500, are exhibited with other antiquities every year on the festival of St.

[a] *Zeitschrift des Harz-vereins*, 1874, s. 59-85.

[b] Wattenbach, *op. cit.* 71; Hercynisches, *Archiv.* (Halle, 1805), s. 138, ff.; Schoenemann, *Merkwürdigkeiten des Wolf. Bibl.* I. Hundert, s. 61; *Hansische Geschichtsbl.*, 1873, s. 6.

[c] *Zeitschrift für Geschichte und Alterthum Schlesiens*, ix. 95-100.

[d] Corssen, Professor W., *Neue Mittheilungen des thür-sachs. Vereins* (1864), x. 145-204.

[e] *Ib.* 359.

[f] Schirrmacher, *Urkundenbuch der Stadt Liegnitz* (1866), vii. ix.

[g] Pertz, *Archiv*, xi. 706.

[h] Wehrs (*Vom Papier*, Halle, 1789, s. 29-32).

[i] Hesse, *Arnstadts Vorzeit und Gegenwart* (Arnstadt, 1843); Serapeum, xxi. 357 to 359.

[k] *Anzeiger der Germanischen Museums*, xx. 79.

[l] Schilter, in the notes to his editions of Jacob v. Königshofen's Chronicle (1698), s. 441.

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John Baptist. Some plain wax tablets from Polling[a] ranging in date from 1431 to 1442 are in the library of Munich. At Halle on the Saal the so-called "Lehmtafel," *i. e.* terrier of property in the salt springs, was written on wax tablets, a custom which lasted till the year 1783, when it ceased by royal warrant. At Halle in Swabia it survived till 1812.[b]

Du Méril[c] says that in the fish market at Rouen it is still the custom to dispose of the fish remaining unsold at the close of the market and to enter the result upon wax tablets, of which he subjoins a drawing.

Mabillon[d] led the way in the investigation of the use of wax tablets. The Abbe le Beuf[e] followed it up in his *Mémoire touchant l'usage d'écrire sur des tablettes de cire.* Edélstand Du Méril[f] wrote a treatise, *De l'usage non interrompu jusqu'à nos jours des tablettes de cire.* Massmann[g] and Hesse[h] also have contributed much valuable information. Wattenbach[i] has given a very full *resumé* of what had been written on the subject, especially referring to the above-mentioned authors; and in Thompson's *Palæography*, in chapter ii.,[k] "On Materials used to receive Writing," and that on "Writing Implements," a good review of the whole subject will be found.

I do not pretend to have any special knowledge of waxed tablets, but in the course of the researches which I made in order to learn whether there was any presumptive evidence for or against the date to which the associated objects seemed to refer the Cambridge tablets, I could find no full account or list of authors. I therefore made a note of such references as I came across or as friends gave me. I have not attempted to verify them further than I thought necessary for my own purpose, but as some day somebody may wish to follow up the work, I venture to place them on record as they are.

[a] Schmeller, see Dr. J. Sighart, *Abhandlungen des Königlich. bayer. Akademie* (1866), ix. 343-356; Rockinger, *Zum baier. Schriftwesen*, s. s. 8 and 9.

[b] Anzeiger, *der Germ. Mus.* ix. 95, x. 70; Homeyer, Hans und Hof-marken, s. 263; Du Méril *op. cit.* s. 113; Grätur Bragur, iii. 524; Petrus de Ludewig, *Vita Justiniani*, 185; Neue Mittheilungen des Thur.-Sachs. Vereins, ix. 444-460.

[c] Du Méril, *op. cit.* 112.

[d] Actt, iii. 2.

[e] *Mémoires de l'Académie des Inscriptions*, 1753, vol. xx.

[f] *Revue Archéologique*, 1860, Nos. 7 and 8; *Études sur quelques points d'archéologie et d'histoire littéraire* (Paris and Leipzig), 85-142.

[g] Lipsiae, 184.

[h] Serapeum, 1860, s. 353-377.

[i] *Das Schriftwesen im Mittelalter* (2nd ed. S. Hirzel, Leipzig, 1875), 44-74.

[k] *Handbook of Greek and Latin Palæography*, London 1893.

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XIII.—*Visitations of certain Churches in the City of London in the patronage of St. Paul's Cathedral Church, between the years* 1138 *and* 1250. *By* W. Sparrow Simpson, *D.D., Sub-Dean and Librarian of St. Paul's.*

Read January 16, 1896.

About the middle of the thirteenth century the Dean and Chapter of St. Paul's Cathedral Church made a minute and careful visitation of churches in their gift, lying in the counties of Essex, Hertfordshire, and Middlesex. The text of that visitation has been lately printed in a volume issued by the Camden Society.[a] The record of their proceedings is so copious that a clear and distinct account can be given of the ornaments, vestments, books, and plate belonging to these churches; and some insight can be gained into the relations which existed between the parishioners, the patrons, and the parish priest.

The visitations now for the first time printed are not so full and ample as could be desired. But so little authentic information is to be gathered about the furniture and ornaments of churches in the city of London at this very early period, that even these brief records may be acceptable to antiquaries.

The manuscript from which these inventories have been transcribed is one of very high importance. Mr. Maxwell Lyte describes it as "a fine volume, of which the earlier part was written in the middle of the twelfth century," and he devotes about eighteen columns of closely-printed matter to a calendar of its contents illustrated by very numerous extracts.[b] The book is known as Liber L, and the most important portions of it are now in print.

Archdeacon Hale edited some part of the manuscript, more particularly certain

[a] *Visitations of Churches belonging to St. Paul's Cathedral*, 1249—1253; and *Visitations of Churches, etc. in* 1297 *and in* 1458. Camden Society, 1895. Both edited by the writer of the present paper.

[b] *Historical Manuscripts Commission*, Report No. 9, p. 60, column 2, to p. 69, column 1.

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visitations of manors in the year 1181, containing many important references to manorial customs:[a] but the visitations of city churches have hitherto escaped the printing press.

The manuscript volume has been in the possession of the church ever since it was written. In 1440, dean Lisieux compiled a catalogue of deeds and other evidences preserved at St. Paul's in various chests and coffers; it is entitled "Tabula extracta de evidenciis in Thesauraria sancti Pauli Londoñ per Magistrum Thomam Leseux Decanum Anno Domini 1440. Et nota quod litera alphabeti significat armariolum signatum exterius cum tali litera, et numerus sequens significat cofinum et pixidem signatum cum tali litera et tali numero;" from which the method of arrangement of the archives may be gathered. The armariola, aumbries, or closets, were marked each with a letter of the alphabet, whilst the chests or coffers contained in the armariola were designated by a numeral.

Dean Lisieux describes our manuscript thus: "Contenta in quodam antiquo et notabili Registro, de tempore Willelmi Conquestoris, clauso cum uno nodulo in medio, 2° folio in Rubrica *Privilegium*, signatus cum litera L."[b] The book in its present state answers to the description, except that the *nodulus* or button by which it was fastened has been removed, the loop, however, which surrounded the button still remains. The stout leather covering is very sound, and the word *Privilegium* occurs in red upon the second folio. "No part of it will bear out the statement of its very early date but the first twenty-six folios," says archdeacon Hale,[c] "the remainder of the book is of the latter part of the twelfth and thirteenth centuries." The inventories now to be described are written in a hand which from internal evidence of other dated documents in the same volume may be ascribed with fair certainty to the middle of the thirteenth century, probably to the year 1250.[d]

Twenty churches in the city were visited. The accompanying list gives the ancient names of the several parishes, together with the more modern forms of those names by which they are known to-day:[e]

1. S. Benedictus super Werham; St. Benet, Paul's Wharf.
2. S. Petrus parvus super Tamisiam; St. Peter, Paul's Wharf.
3. S. Michael de Macello; St. Michael le Quern.

[a] See the *Domesday of St. Paul's*, edited by Archdeacon Hale for the Camden Society, pp. 118-152.

[b] The pressmark of this manuscript is W. D. 11.

[c] Hale, *Domesday of St. Paul's*, preface, xiv. xv.

[d] Two inserted fasciculi, of a smaller size than the original volume, are of the fourteenth century.

[e] The churches are referred to in this paper by the numbers now prefixed to the several names.

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4. S. Augustinus, Watling Street.
5. S. Antoninus; St. Antholin, Watling Street.
6. S. Thomas, Apostle; in Knight Rider Street.
7. S. Johannes super Walebroc; St. John, Walbrook.
8. S. Egidius; St. Giles, Cripplegate.
9. S. Maria de Aldresmanesberi; St. Mary, Aldermanbury.
10. S. Petrus de Bradestrete; St. Peter le Poor.
11. S. Helena, Bishopsgate.
12. S. Michael de Cornhithe; St. Michael, Queenhithe.
13. S. Benedictus de Gaischereche; St. Benet, Gracechurch.
14. S. Botulphus; St. Botolph, Billingsgate.
15. S. Martinus; St. Martin Orgar, in St. Martin's Lane, City.
16. S. Maria Magdalena in Melestrate; St. Mary Magdalen, Milk Street.
17. S. Johannes Zacharia, in Maiden Lane.
18. S. Maria Magdalena; St. Mary Magdalen, Old Fish Street.
19. S. Stephanus, Coleman Street.
20. S. Olavus in vico Judeorum; St. Olave, Jewry.

Of these twenty churches, eight are now standing (Nos. 1, 4, 8, 9, 10, 11, 14, 19); seven were destroyed in the Great Fire of 1666 (Nos. 2, 3, 6, 7, 15, 16, 17); one was burnt down in 1886 (No. 18); and four have been removed under the operation of the Union of Benefices Act (Nos. 5, 12, 13, 20).

In addition to these twenty inventories, three others have been added. These are found in the same manuscript, but are of an earlier date.

A. S. Michael de Æedreshuda, visited about 1138.

B. S. Helena, visited between 1160 and 1181.

C. S. Augustinus, visited at probably the same period.

It will suffice to give an account of one of these inventories somewhat in detail, and to point out a little later the more interesting features in the other inventories. The church of St. Thomas Apostle will supply a good specimen.

After a few details about money payments to the canons and to the archdeacon, the inventory commences. There is a churchyard belonging to this church (whereas six of the churches enumerated had no cemetery[a]). The church goods comprise a silver chalice, gilt within, of the weight of one mark, and a cross covered with silver. The books were numerous: an ancient missal, a good missal with a noted gradual, a breviary in three volumes (it is to be feared that

[a] Nos. 2, 3, 4, 7, 12, and 16.

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this was imperfect, as breviaries are usually comprised in one, two, or four volumes), two antiphonaries, a psalter, an ancient gradual, and a good gradual with a troper, another troper by itself, and a manual. Of ecclesiastical vestments there were a complete *vestimentum*[a] with a linen chasuble, and a chasuble of silk with a stole and maniple of the same material; a bordered *palla;* a very good chasuble of silk, an alb well apparelled, a very good amice ornamented with gold embroidery, another alb good and well apparelled, with an amice embroidered with gold. On the high altar were five *pallæ*, two of them well apparelled; and before the altar two others, one of them painted (*picta*), the other of silk. At each of the other altars, three in all, were two *pallæ* upon the altar and one before it. Two banners of painted cloth, four surplices, and one Catalonian cloth complete the list. All these articles were enumerated by Stephen the priest, whose helpers were Albinus the assistant priest (if that is the proper rendering of *sacerdote assistenti*, as it probably is, all the helpers being enumerated under the word *assistentibus*), John the Soldier (*Johanne Milite*), and William de Valentin.

This is a fairly representative inventory.

A few peculiarities in other inventories may now be noted. At St. Peter le Bradestrate there is no chalice, *non est ibi calix*, a sufficiently remarkable circumstance: probably Nicholaus the chaplain had a chalice of his own, or the church may have had a borrowed chalice, which could not therefore be enumerated amongst its goods. At St. Michael, Queenhithe, is the following entry: *palla vna serica ante altare que dicitur bufe:* the suggestion is offered that *bufe* may stand for the English word *buff*, and that the altar-cloth was of this somewhat peculiar colour.

Of service books in the various churches the following is a list: it must, however, be remarked that no one church contained them all. The missal[b] (not mentioned in six churches); the *evangelistarium*, *epistolarium*, *collectarium*, *lectionarium*, *temporale*, and the *de communi sanctorum* in a separate volume. The breviary, or parts thereof. Of Choir Books, the antiphonar, gradual, psalter, hymnar, and tropar. The manual, and, in one church only, a *textus quatuor evangelistarum.*

Of the ancient Use of St. Paul's there are a few books, notably a *Leccionare optimum secundum consuetudinarium Sancti Pauli*, and an *Antiphonarium bonum et novum secundum consuetudinarium Sancti Pauli.*[c] Perhaps the *quædam particula*

[a] *Vestimentum*: a complete set of eucharistic vestments.

[b] A *Missale vetus in duobus voluminibus*, an unusual arrangement, is found in No. 14.

[c] See churches Nos. 1, 11, 12.

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Vetustissimi Breviarii may be of this use also, and *pars Breviarii veteris in duobus voluminibus.*[a]

The chalices are usually of silver, gilt within, and vary greatly in their weight, ranging from "pondus xj. sol. j. d." to "xxiij. sol. et iij. d.," whilst others are said to be of the weight *dimidii marcæ* or *unius marcæ*. At St. Michael le Quern and at St. John Walbrook, the chalices were of pewter.

Of relics little is said: *Feretrum cum reliquiis, crux cum reliquiis, crux argentea deaurata in qua est de ligno Domini et aliæ reliquiæ preciosæ:* these are the only entries of this kind.

The vestments are of silk, or fustian, or in one case *de tireto*, a material of mixed wool and cotton-thread. It is remarkable that in no case is the colour of a vestment noted. A rochet is mentioned only once (in No. 18); and maniples only once (No. 11), but it is not unlikely that these vestments may be included under the general term *vestimentum.*

The Lenten veil, *pannus qui pendet ante altare a quadragesima* is found in one church only.[b]

Church chests, *archæ*, for the safe custody of the books and vestments, are occasionally named; and in one church there is an aumbry, *almarium bonum ad recondendum vestimentum.*[c] A *feretrum* or bier, in one instance only (No. 1); a *phylacterium* or relic case in one (No. 19); a *celum* or canopy in two cases (Nos. 1 and 8); a cross in eleven churches; banners in thirteen instances; censers, *turribula*, in one church only (No. 19); candlesticks, *candelabra*, in three (Nos. 3, 4, 19); a curtain, *cortina*, in two cases (Nos. 5 and 16); a *tabula depicta* in four (Nos. 9, 11, 13, 18).

It is difficult to understand the reason why these city churches should have been so scantily provided with vestments, ornaments, and furniture. In the contemporary inventories of the country churches of the Dean and Chapter there is hardly to be found a single church whose possessions were so few and poor. Just at this time, however, the Londoners had suffered very heavily from the exactions both of the pope and of the king. In 1246 a Parliament held in London had complained bitterly to the pope of the exactions of the legate, but after a short resistance to the demands had been obliged to give way. In 1248 Henry III. had sold his plate and jewels, and had heavily burdened the citizens to provide a force for the defence of Gascony.

The bishop of Oxford, in his *Constitutional History of England*,[d] observes

[a] See churches Nos. 10, 14.
[b] No. 18.
[c] Nos. 11, 14, and 15.
[d] ii. 68, 69.

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that "the Council of Lyons, in which Innocent IV. deposed Frederick II., and in which Roger Bigod and others, representing the *communitas* of the realm of England, made a bold but vain demand for the relaxation of papal tyranny, and even attempted to repudiate the submission of John, concentrated the gaze of the world in 1245. Henry seems to have rested on the little victory he had won, eking out his revenue by vexatious tallages imposed on the Londoners. The wrongs of the church form for a time the chief matter of debate in the national gatherings."

There were also other causes which must have produced considerable disaffection. "Archbishop Boniface lived generally in Savoy, regarding his English see only as a source of revenue. On his occasional visits he offended the English by his arrogance and violence, and if, now and then, he saw that his real interest was to resist Roman extortion, he, like the king, was easily recalled by a share of the spoil."

In 1248 "the king kept his Christmas at London, taking large sums as New Year's gifts;" in fact, he never ceased to molest the Londoners by interference with their privileges. Under these circumstances, it may be supposed that the citizens would be out of heart, and that they would have but little spare money to expend upon their churches. The clergy of the cathedral, in common with the clergy at large, must have suffered severely from the burdens continually imposed upon them by the king and by the pope, and may consequently have been unable to supply to these churches in their gift such ornaments as were really needed for the beauty, or even for the decency, of the divine service. But even when due allowance is made for all these depressing circumstances, the extreme meagreness of the lists is very perplexing.

Dr. Sharpe, in his recently published work, *London and the Kingdom*[a] points out that just at this time "the country was overrun by a brood of Italian usurers, who battened on the inhabitants, reducing many to beggary. When attempts were made to rid the city of these pests, they sheltered themselves under the protection of the pope."[b] As an example of the arbitrary exactions of the king, he remarks that "if the citizens harboured a foreigner without warrant, not only was the city taken into the king's hand, but the citizens were fined a thousand pounds, a sum equal to at least twenty thousand of the present day."[c] In 1249 he had exacted from them a similar sum. These were not days in which parishioners would expend much money upon their churches.

[a] i. 85-88.

[b] Matthew Paris, ii. 382, 384; iii. 90.

[c] *Chronicle of Mayors and Sheriffs*, p. 11.

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A few names of city vicars and clergy may be recovered from these lists, variously styled *capellanus*, *sacerdos*, *clericus*, and in one case *perpetuus vicarius*. Styled *sacerdos* are Radulphus 1 and 2, Albinus 5, Stephen 6; *capellanus*, Robert 3, Henry 8, Nicholas 10, Ailnodus 11, Walter 14, Jordanus 15, William 16, Richard 17; *perpetuus vicarius*, Richard 18; *clericus*, Vitalis 7. These numbers refer to the list of churches already given.

The three remaining inventories, lettered A, B, C, are of still earlier date: the first cannot be later than 1138. The items of *zona*, *corporale*, and *mantilia* are peculiar to this inventory. B and C cannot be assigned with certainty to any particular year, but they lie between 1160 and 1181. B preserves the name of Albericus, *presbyter*. C that of Edwardus, *sacerdos*. Several interesting entries occur in the last document, notably the *urceolum stagneum ad aquam*, and the *lectorium super altare*, or altar-desk.

The annexed table shows the distribution of plate, books, and vestments amongst the several churches.

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TABLE SHOWING DISTRIBUTION OF BOOKS, ETC. AMONGST THE TWENTY CHURCHES.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Books:																				
Missal			1	1	1	2	1	1	1				1	1	1	1		1	1	1
Evangelistarium	1																			
Epistolarium	1							1												
Collectarium	1							1												
Lectionarium	1														1	1				
Temporale																	1			1
De Communi Sanctorum																				1
Breviary			1	1	1	1	1	1	1	p^t	p^t			p^t			1			2
Antiphonarium	1	1	1	1	1	2	1	2	1	1	1	1			1		1		2	1
Gradale	2		1	2	1	3	1	1				1	1		1	2		2		2
Psalterium			1		1	1	1	1						1	1	1		1	1	1
Hymnarium			1		1		1	1							1					
Troparium	2	1	1	1	1	2		1	1						1	1		1		1
Manuale				1		1				1				2	1					1
Textus iiij Evangelistarum											1									
Vestments:																				
Vestimentum	2	2	2	2	2	2	3	2	2	1	1	2	1	2	2	2	2	3	3	2
Alba				1									1							
Amicta	1		1	1																
Manipulum											2									
Palla	6	4	13	6	5	6	4	6	5	4	5	10	5	6	7	7	5	5	5	7
Pannus	5		1			1								1			1	3		4
Pannus in Quadragesima																		1		
Rochettum																		1		
Superpellicium			1	1		4								1	1			1	2	2
Ornaments:																				
Chalice		1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	1
Almarium															1					
Archa											1			1		2				
Candelabra			2	2														2		
Celum	1							1												
Cortina					1											2				
Crux	1	1	1			1			1		1		1	1		1	1		2	
Feretrum	1																			
Philacterium																			1	
Tabula depicta									1		1		1					1		
Turribula																			2	
Vexillum	1	1	2	3		2			4		1	1			1		1	1	3	3

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APPENDIX.

Inventories of City Churches from a Manuscript in St. Paul's Cathedral Library.
(*MS. W. D.* 4. *Liber L. folios* 83—85.)

1. Ecclesia sancti Benedicti super Werham[a] Episcopi Canonicorum est Sancti Pauli et reddit eis ij marcas per manum Ricardi Camerarii et solvit sinodalia xij. đ., Archidiacono xij. đ.

Hec ecclesia habet cimiterium. Hec sunt ornamenta ecclesie: Calix argenteus intus deauratus cum patena deaurata ad pondus xiij solidorum. Vetus collectarium. Vetus Gradale. Quidam libellus de communi sanctorum. Duo vestimenta integra et parata cum casulis, una serica, altera de fustanico.[b] Due palle[c] super altare et una serica ante altare. Unum vexillum cum cruce et feretrum cum reliquiis. Una amicta cum aurifrasio optimo. Pallee sex nove supra altare, duo panni picti ante altare. Hec dedit Radulphus de proprio dono. Evangelistarium, Epistolarium, optima. Leccionare optimum secundum consuetudinarium Sancti Pauli, Antiphonarium bonum. Gradale optimum precii unius Marce. Duo troparia optima. Celum[d] celatum precii unius Marce. Duo panni boni incisi et unus pannus ad cooperiendum altare. Hec inquisita sunt coram Radulpho sacerdote et Hedredo tinctore[e] et Alboldo telario.

2. Ecclesia sancti Petri parvi[f] super Tamisiam est Canonicorum et reddit eis xij. đ. per manum Radulphi sacerdotis et solvit sinodalia iiij. đ., Archidiacono xij. đ.

Non habet cimiterium. Hec sunt ornamenta: Calix argenteus intus deauratus ad pondus unius Marce. Antiphonarium bonum. Troparium. Duo vestimenta integra, unum paratum,

[a] That is St. Benedict, Paul's Wharf. Sometimes called S. Benedictus in hetha, in etha, super hetham, super hutham, super Wodewarve: or, in English, at the Hythe, or St. Bennet Woodwharf. "Ecclesia S. Benedicti super Werpam Episcopi est Canonicorum," etc. Newcourt, *Repertorium*, I. 301, quoting Reg. Dec. et Cap. lib. B. fol. 36, a MS. no longer found amongst the records.

[b] Fustian: a material nearly akin to velvet. Rock, *Textile Fabrics*, xlv.

[c] Palla: "lineus pannus consecratus, qui super altare ponitur, super quem extenditur corporale." Ducange.

[d] Celum: Ducange says, "Umbella, quae in processionibus et funeribus Regum portatur." Here, either a canopy over the altar, or a canopy used in processions.

[e] Tinctor, Telaricus: a dyer, a weaver.

[f] S. Petrus parvus, etc.: St. Peter, Paul's Wharf, called Parva, says Stow, "because it was but a small church."

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alterum non paratum; cum duabus casulis, una cum veteri serico, altera de fustanico. Due palle ante altare, due super altare. Una crux argentea deaurata in qua est de ligno Domini,[a] et alie reliquie preciose. Vetus vexillum. Hec inquisita sunt coram sacerdote et Herlewino et Willielmo cuverio.[b]

3. Ecclesia Sancti Michaelis de Macello[c] est Canonicorum et reddit eis ij Marcas per manum Roberti capellani et solvit sinodalia iiij. d., Archidiacono xij. d.

Non habet cimiterium. Habet hec ecclesia in domino suo quondam [*sic*] terram ad ostium ecclesie versus aquilonem. Hec sunt ornamenta: Calix stagneus. Missale bonum. Unum breviarium cum antiphonario notato. Gradale cum tropario. Psalterium vetus. Ymnarium vetus. Duo vestimenta bona integra et parata cum casulis, una de serico bona, Altera de fustanico. Palle viij, tres illarum parate. Unum superpellicium. Palle V ante altare, una serica et alie iiij picte. Duo vexilla, cum cruce una: Quidam pannis [*sic*] sericus circa crucem. Una amicta sine vestimento. Duo candalabra stagnea. Hec inquisita sunt coram predicto capellano et Godefrido orbatore[d] et Ricardo Goldewino.

4. Ecclesia Sancti Augustini[e] est Canonicorum et reddit eis j Marcam per manum Radulphi Britonis[f] et reddidit antiquitus xx solidos et solvit sinodalia iiij. d.,

Archidiacono xij. d. Non habet cimiterium et habet in dominia terrulam quondam de terra Willielmi Cesterford, versus aquilonem iiij pedum in latitudine, versus orientem iiij pedum, de terra ejusdem Willielmi quantum ipsius terra protensa est. Ornamenta hec sunt: Calix argenteus intus deauratus ad pondus unius Marce. Missale bonum cum Gradali non notato. Gradale bonum cum tropario. Breviarium bonum sine antiphonario. Unum Manuale cum psalterio. Antiphonarium bonum. Unum vestimentum bonum cum casula serica et apparatu serico. Item aliud vestimentum cum casula serica. Superpellicium. Item alba quedam vetus et una amicta. Due palle super altare, una optima cum aurifrigio, et altera bene parata ad magnum altare, et duo ad aliud altare, et due palle serice ante altare magnum, due palle picte due palle picte [*sic*] ante altare, Tria vexilla celata, duo candelabra. Hec inquisita sunt coram Radulpho Britone, assistentibus ibi Waltero parmentario[g] et Waltero filio Alicie.

[a] De ligno Domini: the wood of the Cross.

[b] Cuvarius: a cooper.

[c] De Macello: "because near the Shambles or Fleshmarket." More usually called *ad Bladum*, or, in English, St. Michael le Quern.

[d] Orbator: a gold-beater.

[e] St. Augustine, Watling Street.

[f] The name of Osbert Brito occurs in the list of tenants at Barling. Hale, *Domesday*, 66. Ralph Brito, or Le Breton, was admitted to the stall of Cadington Major in 1228.

[g] Parmentarius: a tailor.

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5. Ecclesia Sancti Antonini[a] est Canonicorum et reddit eis ij Marcas per manum Albini sacerdotis solvit sinodalia xij. d.,

Archidiacono ij solidos: sed tempore Willielmi Archidiaconi[b] non reddidit nisi xij. d. Habet cimiterium. Hec sunt ornamenta: Calix argenteus ad pondus xx solidorum intus deauratus. Missale vetus. Psalterium cum ymnario. Duo paria vestimentorum, unum bonum bene paratum cum casula serica bona, et altera casula de tireto[c] et capa serica bona. Due palle ante altare serice. Tres palle super altare, due earum parate. Quidam cortina pendens super altare. Gradale, troparium, breviarium, antiphonarium. Omnes libri sunt de proprio questu Albini supradicti. Hec inquisita sunt coram Albino sacerdote assistentibus ibi Ricardo Wendebrede, Johanne drapario.

6. Ecclesia Sancti Thome[d] est Canonicorum et reddit eis unam Marcam argenti: scilicet unam medietatem per manum Stephani sacerdotis, et alteram per manum Henrici de Tantuna. Solvit sinodalia xij. d.,

Archidiacono xij. d.: et Habet in dominio suo terram quandam juxta terram Johannis Pipercorn, que solebat reddere annuam Marcam quam tenet Radulphus vinitor[e] pro ij solidis reddendis Stephano. Habet cimiterium. Hec sunt ornamenta que invenit Stephanus: Calix argenteus intus deauratus ad pondus unius Marce. Missale vetus, unum breviarium in tribus voluminibus, Antiphonarium, Psalterium, Gradale vetus, Troparium. Unum vestimentum integrum cum casula linea. Alia casula serica cum stola et manipulo sericis. Una palla parata. Hec ornamenta que sunt prefatus Stephanus:[f] Missale bonum cum gradali notato. Antiphonarium bonum. Gradale cum tropario bonum. Manuale. Casula serica optima et alba bene parata, et amita optima cum aurifrigio, et altera alba bona et bene parata, cum amita de aurifrigio. Palle V super altare magnum, due earum bene parate; et due palle ante altare, una picta, altera serica vetus; et ad singula trium altarium aliorum due palle super altare et ante altare una. Duo vexilla de panno picto. Quidam pannus catalaunensis.[g] Quatuor superpellicia. Una crux argento cooperta. Hec inquisita sunt coram Stephano sacerdote, Assistentibus ibi Albino sacerdote assistenti Johanne Milite, Willielmo de Valentin.

[a] St. Anthony: or, St. Antholins.

[b] William was Archdeacon of London in or about 1136, he held the archdeaconry in 1150. Le Neve.

[c] De tireto: Ducange gives "Tiretanus: pannus lana filoque textus. Gall: Tiretaine."

[d] St. Thomas: this church, commonly called St. Thomas Apostle, stood in Knight Rider Street, on the north side, toward the east end thereof. Newcourt.

[e] Vinitor: Vintner.

[f] Stephanus: *sic.* probably *Stephanus invenit* was intended.

[g] Catalaunensis: for some valuable observations upon Spanish textiles, see Dr. Rock's *Textile Fabrics.* Introduction, lxvii. *Catalaunia* is the Latin name of Catalonia.

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7. Ecclesia Sancti Johannis super Walebroc[a] est Canonicorum et reddit eis ij solidos per manum Vitalis clerici, solvit sinodalia iiij. đ.,

Archidiacono xij. đ.: et habet in dominio suo quandam terram que reddit ij solidos et est de feudo Willielmi de la Mare; et aliam terrulam que est inter ecclesiam et Walebroc et reddit iij solidos. Non habet cimiterium. Hec sunt ornamenta: Calix stagneus. Missale vetus, Breviarium vetus, Gradale vetus, Antiphonarium vetus, ymnarium, Psalterium. Duo paria uestimentorum parata, Tercium non paratum. Una casula serica, Altera de fustanico. Tres palle super altare parate, et Una ante altare serica. Hec inquisicio facta est coram Vitali clerico, Assistentibus[b] ibi Stephano capellano.

8. Ecclesia Sancti Egidii[c] est Canonicorum et reddit eis xv Marcas per manum Johannis filii Gerardi et solvit sinodalia xij. đ.

Habet cimiterium. Hec sunt ornamenta: Calix argenteus ad pondus xxiij solidorum et iij. đ. Unum Missale vetus bonum, Breviarium bonum cum antiphonario perusum, et aliud vetus antiphonarium et ymnarium bonum, epistolarium vetus, Collectarium, Troparium, Gradale, Psalterium quod alumpniat[d] Philippus. Duo vestimenta integra et parata, Unum cum serica casula, Aliud cum casula cum fustanico; et preterea una alba parata, et una quam habet Philippus quam dedit Ysabel uxor Johannis Pipercorn ecclesie sancti Egidii. Palle vj super altare, quoddam celum, quedam cortina, quidam pannus pictus, palla linea ante altare. Hec inquisita sunt coram Johanne filio Gerardi, Assistentibus ibi Henrico capellano, Benedicto filio Toki,[e] Benedicto filio Alani, Lefwino megucer,[f] Reimundo.

9. Ecclesia sancte Marie de Aldresmanesberi[g] est Canonicorum et reddit eis ij solidos per manum Johannis, quos reddit modo Philippus capellanus Wintoniensis Episcopi et solvit sinodalia xij. đ.

et habet cimiterium. Hec sunt ornamenta: Calix argenteus intus deauratus ad pondus xvj solidorum. Missale vetus, Breviarium optimum cum antiphonario notato sanctorum tantum,

[a] St. John, Walbrook, stood in Walbrook Ward, "the east end whereof was in Dowgate Street and the west end upon the very banks of Walbrook." Newcourt, I. 370.

[b] Assistentibus, *sic.* in MS.

[c] St. Giles, Cripplegate.

[d] Alumpniat: probably for *alumenat*, or *alumenavit*. *Alumenare* is a late form of *illuminare*. The Psalter which Philip is illuminating.

[e] Toki: on a Danish monumental stone found in August, 1852, at the S.E. of St. Paul's Churchyard is the inscription, KONA AND TUKI CAUSED LAY THIS STONE.

[f] Megucer: *Megucarius*, a leather dresser.

[g] St. Mary, Aldermanbury.

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troparium. Duo vestimenta parata cum una casula serica. Due palle ante altare veteres et serice, et due palle super altare parate. Tabula depicta cum cruce ossea. iiij vexilla. Una palla ante altare sancte Katerine. Hec inquisita sunt coram duobus parrochianis, Rogero tinctore et Rogero filio Walteri, et coram clericis ipsius ecclesie.

10. Ecclesia sancti Petri de Bradestrate[a] est Canonicorum et reddit eis ij solidos per manum Nicholai capellani usque ad iiij annos, et deinceps v solidos: solvit sinodalia iiij. d,

Archidiacono xij. d. Hec sunt ornamenta: Non est ibi calix: sed est ibi manuale, Vetus antiphonarium, Quedam particula vetustissimi breviarij. Unum vestimentum integrum cum casula linea. Due palle super altare veteres, due ante altare, j serica, altera picta. Hec inquisita sunt coram Nicholao capellano, Assistentibus ibi Petro, Radulpho.

11. Ecclesia Sancte Helene[b] est Canonicorum et reddit eis xx solidos per manum magistri Cypriani: solvit sinodalia xij. d., Archidiacono xij. d.

Habet cimiterium. Hec sunt ornamenta: Calix argenteus intus deauratus ad pondus xvj solidorum. Unum antiphonarium bonum et novum secundum consuetudinarium sancti Pauli. Textum iiij^{or} evangelistarum. Crux cum reliquiis, tabella depicta, pars breviarij. Vestimentum integrum cum casula serica. Palla serica ante altare sex solidorum, et duo manipuli. Vexillum. Item due palle ante altare serice, Alia linea, due super altare veteres, Una parura. Archa bona et ferrata ad libros recondendos et vestimenta. Hac inquisicio facta est coram Ailnodo capellano, Simone clerico, Galfrido, Petro.

12. Ecclesia sancti Michaelis de Cornhithe[c] est Canonicorum et reddit eis iij Marcas et dimidium per manum Walteri filii Walteri: et solvit sinodalia iiij. d., Archidiacono xij. d.,

et habet in dominio suo soppam[d] unam que reddit ij solidos. Non habet cimiterium. Hec sunt ornamenta ecclesie que invenit Walterus: Unum vestimentum integrum cum casula serica, palla ante altare, palla incisa[e] ante altare et alia picta. Hec addidit Walterus de proprio dono. Una alba bona et parata cum amita et unum vestimentum optimum integrum quod adquisivit a parrochianis offertorium.[f] Palla una serica ante altare que dicitur Bufe. vj super altare palle, due illorum parate de serico. Antiphonarium optimum secundum consuetudinarium sancti

[a] St. Peter, Broad Street, otherwise called St. Peter le Poor.

[b] St. Helen, Bishopsgate.

[c] St. Michael, Queenhithe, *ad Ripam Reginae*: otherwise called St. Michael de Cornhith, in Queen-hith-Ward.

[d] Soppam: *schopam*, a shop.

[e] It seems likely that *opus incisum* may be the same as the *opus consutum* described by Dr. Rock, *Textile Fabrics*, cii.

[f] Offertorium: an offering.

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Pauli. Gradale novum quem dedit Walterus, parrochianis presentibus. Vexillum. Hec inquisita sunt coram predicto Waltero, Assistentibus ibi Willielmo Blundo, Rogero mercerio, Johanne palmario,[a] Hme.[b]

13. Ecclesia sancti Benedicti de Gaischereche[c] est Canonicorum et reddit eis dimidiam Marcam per manum Helye sacerdotis, et solvit sinodalia xij. d.

Archidiacono . Habet cimiterium. Hec sunt ornamenta: Calix argenteus ad pondus unius Marce intus deauratus. Missale bonum cum Gradali non notato. Vestimentum bonum paratum cum casula serica, et alia casula vetus cum stola et manipulo sericis. Palle tres, due illarum parate ante altare, due incise ante altare, et una picta tabula picta bona, et crux bona. Hec inquisita sunt coram capellano, Assistentibus ibi Fulcheri, Laurencio, et aliis parrochianis.

14. Ecclesia sancti Botulphi[d] est Canonicorumet redd it eis xviij. d. per manum Cristine persone: solvit sinodalia iiij. d., Archidiacono

xij. d., Regi de fundo ecclesie j. d.

Ornamenta: Calix argenteus intus deauratus ad pondus dimidii Marce. Missale vetus in duobus voluminibus, pars breviarii veteris in duobus voluminibus, Antiphonarium, Gradale, Psalterium, ij Manualia. ij paria vestimentorum, una vetus et altera serica vetus. ij palle super altare una parata. ij ante altare, una picta, altera nullius modi. Pannus pictus ultra altare. ij palle super altare Sancte Marie, una picta ante altare. Archa bona ad recondenda vestimenta. Superpellicium vetus. Crux optima cum baculo. Hec inquisita sunt coram capellano, assistentibus ibi Waltero capellano, Galfrido, Ranulfo.

15. Ecclesia Sancti Martini[e] est Canonicorum et reddit eis xviij. d. per manum Cristine persone: solvit sinodalia xij. d.,

Archidiacono xij. d. Habet cimiterium. Ornamenta: Calix argenteus intus deauratus ad pondus xv solidorum. Missale vetus, Antiphonarium mediocre, Leccionare, Gradale cum

[a] Palmarius, a palmer or pilgrim.

[b] Probably the same name, Hemeri, as that which occurs at the end of Inventory No. 16.

[c] St. Benedict Grasschurch, or Gracechurch Street: called Grasschurch by reason of the herb market held there, according to Stow. Graschurch was the great corn market of the city. The market was not, however, restricted to corn and malt: blacksmiths were permitted to send their work thither for sale. Cunningham and Wheatley, *London Past and Present.*

[d] St. Botolph, Billingsgate.

[e] St. Martin Orgar, in St. Martin's Lane, near Candlewick Street.

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tropario, Manuale bonum, ymnarium vetus, psalterium. Superpellicium, vexillum; duo paria vestimentorum parata, Unum illorum bonum cum duabus casulis, una serica. Tres palle super altare parate, iiij^{or} ante Almarium[a] bonum ad recondendum vestimentum. Hec inquisita sunt coram Jordano capellano, assistentibus ibi Cristina persona, et Edwardo normanno.

16. Ecclesia sancte Marie Magdalene in Melestrate[b] est Canonicorum et reddit eis ij solidos per manum Bartholomei aurifabri: solvit sinodalia iiij. d., Archidiacono xij. d.

Non habet cimiterium. Hec sunt ornamenta: Calix argenteus intus deauratus ad pondus xiiij solidorum. Missale bonum cum Gradali notato, Gradale bonum cum tropario, leccionare plenarium, Psalterium. ij paria vestimentorum parata, unum optimum et alterum bonum; et cum duabus casulis sericis, Una de Montabech,[c] Altera de Melan.[d] Due palle ante altare serice; iiij palle super altare, due earum parate; due palle super altare Sancti Nicholai, alia ante. ij cortine. Una crux super altare bona. Due arche bone ad recondenda vestimenta. Hec inquisita sunt coram Willielmo capellano ipsius ecclesie, Assistentibus ibi Osberto fergant[e] Hemeri.

17. Ecclesia sancti Johannis Zacharie[f] est Canonicorum et reddit eis xx solidos per manum magistri Petri: solvit sinodalia

xij. d., Archidiacono xij. d., et habet cimiterium. Ornamenta: Calix argenteus intus deauratus ad pondus xiiij solidorum. Breviarium cum antiphonario notato temporale tantum. ij paria vestimentorum parata cum duabus casulis, Una de alba serica, Alia vetus de veteri serica. Palle V parata [*sic*], una earum super altare, due parate picte. Quidam pannus pictus ultra altare. Vexillum crucis sericum. Hec inquisita sunt coram Ricardo capellano, Assistentibus[g] ibi Godwino mercerio

[a] Almarium: an aumbry, or cupboard.

[b] St. Mary Magdalene, Milk Street, stood on the east side and towards the south end of that street.

[c] Montabech: it is not easy to identify this place.

[d] Melan: perhaps silk from Milan is intended. That city was famous for its gold thread. Dr. Rock, *Textile Fabrics*, 197.

[e] Fergant: *sic*, but probably sergant, for sergeant.

[f] St. John Zachary: the church stood before the fire in Engaine Lane, or Maiden Lane, at the north-west corner thereof, in Aldersgate Ward. Newcourt.

[g] Assistentibus: *sic.* in MS.

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18. Ecclesia sancte Marie Magdalene[a] est Canonicorum et reddit eis xvj solidos per iiij^{or} annos, et post iiij^{or} annuos reddet eis xx solidos, per manum Ricardi perpetui vicarij: et solvit

sinodalia iiij. đ., Archidiacono xij. đ.[b] Ornamenta: Calix argenteus ad pondus unius Marce. Missale bonum cum Gradali non notato et cum psalterio, Gradale ij sol, Troparium bonum. Vestimentum integrum bene paratum cum casula de fustinaco optima; Aliud vestimentum integrum cum casula de colmarco;[c] tercium bene paratum sine casula. ij palle ante altare, Una depicta. iij panni depicti circa altare. Pannus qui pendet ante altare in quadragesima. iij palle super altare, una depicta, una earum parata delicta serica. Vexillum de serica, et superpellicium et Rochettum. Tabula depicta ultra altare.

19. Ecclesia Sancti Stephani[d] est Canonicorum et reddit eis ij solidos per manum Prioris de Buteleia,[e] et solvit sinodalia xij. đ.

Ornamenta: Calix argenteus intus deauratus ad pondus xj solidorum. Philacterium[f] de esmal.[g] ij candelabra de auricalco.[h] Missale vetus, Psalterium vetus, ij Antiphonaria, ij libelli. Tria paria vestimentorum, Unum cum casula de aurifrigio ornata, Secundum cum casula serica, Tercium de fustanico. Quinque palle benedicte. ij superpellicia. ij terribula, tria vexilla, due cruces.

[a] St. Mary Magdalene, Old Fish Street, stood "over against the north end of Lambart-hill-lane, in Knight Rider Street." Newcourt. The church, rebuilt after the Great Fire, was burnt down in 1886. It was not again rebuilt.

[b] In the margin is this note: "contra Archidiaconum londoniensum." [*Sic.*]

[c] Colmarco: perhaps calamanco, a woollen material. It is mentioned in Lyly's play of Midas, in 1592. Ducange gives the forms calamacus, calamancus, calamantus, camelancum; but with the meaning, a hat of camel's hair. *The Drapers' Dictionary.*

[d] St. Stephen, Coleman Street. Stow says, that the church was sometime a synagogue of the Jews.

[e] Prior de Buteleia: the Prior of Butley, in Suffolk. The Priory of Butley, a house of Black Canons, was founded by Ranulph de Glanvil, the celebrated lawyer, afterwards Justiciary of England, in 1171. On his removal from office he joined the Crusade, and was with King Richard the First at the siege of Acre. In the *Compotus Ministrorum Domini Regis temp. Henry VIII.* in the Augmentation Office, is this item: "London. Firma rector' S' Steph' Colman Street 10 . 0 . 0." Dugdale, *Monasticon*, VI. 380-382.

[f] Philacterium: a reliquary. "Theca minor sacrarum reliquiarum, quae ad collum filacteriis seu vittis appensa in processionibus portabatur." Ducange.

[g] Esmal: enamel.

[h] Auricalco: more properly *orichalcum.* The word is not derived from *aurum.* but is equivalent to ὀρείχαλκος, yellow copper ore, and the brass made from it.

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20. Ecclesia Sancti Olavi in vico Judeorum[a] est Canonicorum et reddit eis ij solidos per manum Prioris de Buteleia: solvit sinodalia xij d., Archidiacono

xij. d. Ornamenta: Calix argenteus intus deauratus ad pondus unius Marce. Missale bonum, ij Gradalia cum troparío, Manuale, Psalterium, ij breviaria, unum temporale, aliud de passionibus Sanctorum, Antiphonarium. ij vestimenta cum ij casulis, tercium sine casula. vij palle benedicte, Una earum parata. ij panni depicti scelati ad magnum Altare, ij ad alia Altaria. ij superpellicia, ij vexilla de linea, pannum depictum et scelatum, Tercium de serico.

A.

De Ecclesia Sancti Michaelis de Ædreshuda.[b]

Hæc autem sunt quæ ipse Walterus[c] in æcclesia illa recepit: Breviarium, Troparium, Gradale, Antiphonarium, Manuale, Capitularium, Pars veteris Missalis, Missale, Alba parata, Amictus, Stola, Zona, Corporale, iiij Mantilia,[d] Totum vestimentum sacerdotale, Duæ cruces, Pannus Altaris, Duo Tintinnabula.

This document is witnessed by Willelmus Decanus, Willelmus Archidiaconus, Cyprianus Archidiaconus, and many others. Dean William died in 1138, his name occurs as dean in 1111; William, archdeacon of London, occurs from about 1136 to 1150; Cyprian, son of Quintilian, held the stall of Ealdland (in succession to his father) in 1132 The latest date to which this deed can be assigned is therefore 1138.

B.

Sancte Helene.

In æcclesia Sanctæ Helene reperta sunt hæc tempore Alberici presbitiri: Missale unum, Pars tercia Breviarii, Antiphonarium, Manuale, Hymnarium, Integrum Vestimentum cum casula de pallio, Manutergia Altaris duo, Pallium ante Altare, Crux deargentata.

This inventory is transcribed from *Liber L.* fol. 30*b*: it relates to St. Helen's Bishopsgate. The document is witnessed by Hugo, Decanus, and others. Hugh de Marinis, or de Marney, is thought to have been dean of St. Paul's from about 1160 until about 1181. See Le Neve's *Fasti*. The date of the document lies, therefore, within these limits.

[a] St. Olave, Old Jewry.

[b] Copy of a deed of the twelfth century. *Liber L.* fol. 29.

[c] Walterus: that is Walterus, nepos David, previously named in this manuscript.

[d] Mantile: "linteum est ad abstergendas manus." Ducange.

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C.

De æcclesia Sancti Augustini.[a]

In æcclesia Beati Augustini dimittit Edwardus sacerdos Psalterium, Gradale bonum cum tropario, alterum troparium per se, Lectionarium valentem xxx solidos, unum vestimentum plenarium, casulam de catavolatilia,[b] albam cum paramento, amitam cum paramento, stolam de serico, manipulum de serico, cingulum de serico, alterum vestimentum cujus vestimenti casula est de serico, Alba cum paramento, Amita cum paramento carens stola et manipulo, Pannum de serico ante Altare, iij pannos lineos bonos super Altare, Superpelliceum cum rochato,[c] Calicem argenteum intus deauratum cum patena argentea appendentem j marcam duobus denariis minus, duas phialas stagneas, urceolum stagneam ad aquam, ij candelabra cuprea, altera ij lignea, duas pelves parvas. Lectorium[d] super Altare, Crucem portabilem, Archam ad hec recondenda, Cathedram, Turribulum.

[a] St. Augustine, Watling Street. This document is transcribed from *Liber L.* fol. 30, and is probably of the same date as the last Inventory.

[b] Catavolatilia: possibly a corruption of Catalaunensia. In the church of St. Thomas Apostle was a *pannus Catalaunensis*.

[c] Rochato: *sic.* in MS. Compare Inventory No 18.

[d] Lectorium: Ducange says, "Analogium, Ambo, pulpitum in quo legitur in ecclesia." Perhaps, in this inventory, an altar-desk.

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XIV.—*The House of Aulus Vettius, recently discovered at Pompeii.*
By TALFOURD ELY, *Esq.*, *M.A.*, *F.S.A.*

Read February 20, 1896.

IN dealing with the *Domus Vettiorum*, the recent publications to which I have chiefly had recourse have been the following:

(1) *Notizie degli Scavi di Antichità comunicate alla Reale Accademia dei Lincei.*
(2) Herrlich, in the *Archäologischer Anzeiger*, *Jahrbuch des Kaiserlich deutschen archäologischen Instituts*, 1895.
(3) Sogliano, *Il supplizio di Dirce in un dipinto Pompeiano e il Toro Farnese*, Napoli, 1895.
(4) F. Marriott's *Facts about Pompei;* and his article entitled *The New House in Pompei*, in *The English Illustrated Magazine* for January, 1896.

The excavation of this house was not begun when I last visited Pompeii, but I have taken pains to obtain from Italy a large number of excellent photographs, thirty-eight of which I exhibit, and with the help of these and of literary sources, supplemented by a practical knowledge of Pompeii gained from personal observation, I hope to be able to give a fairly intelligible account of the interesting mansion recently brought to light.[a]

This is situated in the north-west quarter of the town, *Regio* VI., to the east of the *Casa del labirinto*, from which it is separated only by a narrow street. It

[a] Since this paper was laid before the Society there has been published in the *Bulletino dell' Imperiale Istituto Archeologico Germanico* (1896), xi. 3-97, a valuable account of the house in question, by August Mau, the greatest authority on Pompeian wall decoration.

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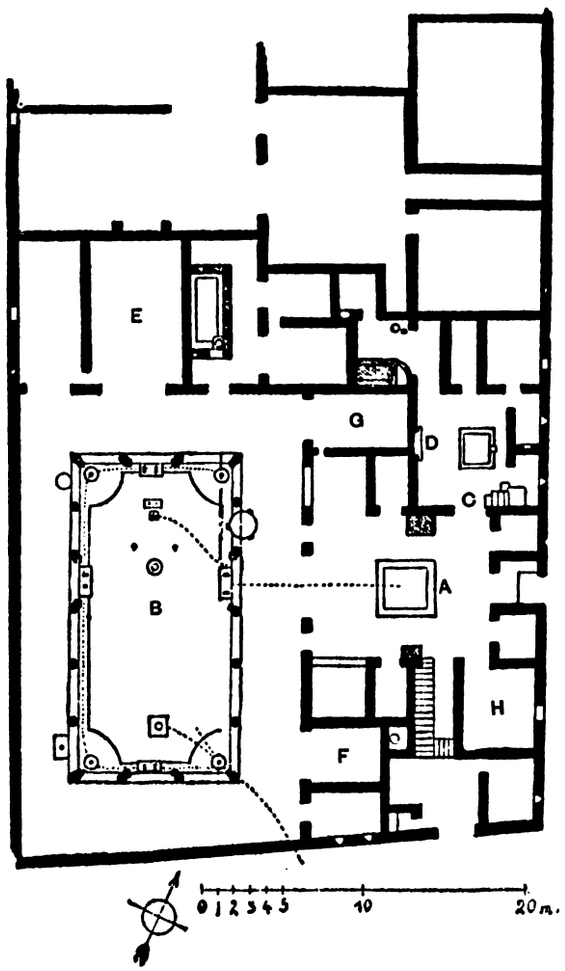
is, therefore, close to the "House of the Faun," and not far from that of Pansa, and other houses immortalised in Bulwer's popular novel.

Crossing the Tuscan *atrium* (fig. 1 A) from the east one finds no *tablinum*, nor any *fauces*, but passes at once into a splendid peristyle (fig. 1 B) in the south-western portion of the *insula*.



A. Atrium.
B. Peristyle.
C. Smaller Atrium.
D. Lararium.
E. Œcus.
F. Triclinium.
G. Larger Triclinium.
H. Smaller Œcus.

Fig. 1. Ground-plan of the newly discovered House of A. Vettius, at Pompeii.[a]

Its portico is supported by eighteen Corinthian columns, four being at each end. They have finely wrought capitals, and have not had their flutings partially filled up, as is usually the case.

The flower beds in the centre have been restored and planted with flowers and shrubs. A new roof has been put on the portico, and the authorities, having wisely determined to keep everything of interest *in situ*, have covered the paintings with glass, besides applying the usual dressing with wax.

The decoration is for the most part in Mau's fourth style, belonging to the last two or three decades of the city's existence, though Herr Herrlich recognises in parts, *e.g.* on the walls surrounding the peristyle, the characteristics of the third or more sober style, which was in vogue during the first half century of the Christian era.

Traces of this "kandelaberstil," as Mau calls it, may be seen in the *atrium*, where long slender candelabra-forms divide the spaces of the wall.

[a] Enlarged from that in *Bulletino dell' Imperiale Istituto Archeologico Germanico Sezione Romana* (1896), vol. xi. fasc. 1.

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For the most part, however, the fourth style prevails, with its bright colours, among which, and especially in the house we are considering, the brilliant cinnabar plays an important part. A piece of the red stucco-ground from this house of Vettius, lately shown to me by Mr. Marriott, was far brighter than anything of the kind that I had ever before seen.

Hitherto but little marble has been found at Pompeii. As a rule, it was counterfeited by painted stucco, there being no marble quarries near at hand. In other cases, where real marble had been employed, it was removed with other valuables immediately after the desertion of the city. In this house, however, we find an exception to the rule. There are several tables of marble in the peristyle, besides numerous fountain basins and statuettes, amongst which a hunter with hare and a satyr with wine-skin are praised for their beauty. There are also a pair of bronze statuettes representing boys, each holding a goose, from whose bill water flowed.

Still more interesting are two pairs of marble heads back to back, Dionysus with Ariadne, Silenus with a Bacchante. The marble pillars on which they stand are exquisitely carved with ivy,[a] and remind me forcibly of Professor Flinders Petrie's pieces of columns from the palace of Akhenaten with their flowing designs of vines, which have been compared with Renaissance decorations. Even Silenus is here represented in his nobler mood, and it requires the comparison with his Olympian master to make us feel the true lowness of his type.

Discoveries of objects in metal are recorded in the *Notizie degli Scavi* from day to day for a twelvemonth; one only need be mentioned here. It is the discovery on December 11th, 1894, of two seals and a ring bearing inscriptions which point to the owner of the house.

Those on the two seals contain ITTƎV · A, apparently the genitive singular of Aulus Vettius,[b] to which is added on the second ƧƎAVIVNOƆ·

[a] The carving on one of these pillars, as Mr. A. H. Smith has pointed out to me, appears to have been left unfinished. Mau considers that the double bust of Silenus and the Bacchante is the earlier, *Bulletino* (1896), p. 42.

[b] One Vettius Bolanus was sent by Vitellius to take the command in Britain (Tacitus, *Historiæ*, ii. 65), to which task he seems to have been hardly equal, see Tacitus, *Historiæ*, ii. 97; *Agricola*, 8 and 16. Vettius Valens appears in the list of Messalina's lovers, Tacitus, *Annales*, xi. 30, 31, and 35. Though coming to the front under the early empire, the *Vettia gens* is hardly known before the last century of the Republic. Vettius Scato was an Italian leader in the Marsic war. There is a denarius of T. Vettius Judex with the agnomen Sabinus. For tombstones of Vettii see *Corpus Inscriptionum Latinarum*, vi. 28662 to 28691; of Vettiae 28692 to 28713.

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The ring contains this inscription in an abbreviated form ƆVA, *i.e.* A(uli) V(etti) Co(nvivae).[a]

It seems to me that *Conviva* may be the third name of Aulus Vettius, as we have *Scipio* and *Mus*, common nouns used as surnames in Latin,[b] and the English "guest." The final s may stand for *sigillum*, in reference to the impression of the seal. A learned friend, indeed, points out to me that A. Vetti may possibly be a *vocative*, and that the last two letters in the second inscription may be the verb *es*. I prefer, however, to take the words as genitives.[c]

The second line of seal No. 1 being obviously wrongly reproduced in the *Notizie*, I wrote to Mr. Neville Rolfe, our consul at Naples, through whose kindness, and that of Professor de Petra, Director of the Museo Nazionale, I am able to supply the proper reading, viz.:

ITTƎ · A
+V+ƧƎЯ

i.e. A. Vetti Restituti. I had previously conjectured that this must be the name, but had not succeeded in finding anything on the monuments of the Vettii nearer to *Restitutus* than the sepulchral inscription at Rome, Vettiæ Restutæ (*sic*) in *Corpus Inscriptionum Latinarum*, vi. 28710.

We may now pass to the walls of the rooms themselves.

These, as in most Pompeian schemes of decoration of the same date, are divided into three horizontal bands, the lowest being a plinth of darker shade, either adorned with lightly-traced arabesque or painted in imitation of marble. (*See* fig. 2.)

The highest band contains single figures standing in niches supposed to be open to the sky, often with perspective effects. Sometimes it is edged with a frieze of figures.

The middle and most important band is much wider, and is divided vertically into three or more panels; those at the sides presenting to us vistas similar to those above.

The centre, however, is occupied by a large painting three or four feet square; an imitation of an easel-picture.

Before considering, however, the ordinary ornamental paintings let us glance at a well-preserved and valuable example of the religious picture, the characteristic mark of the Roman dwelling.

[a] *Notizie degli Scavi*, Gennaio, 1895, p. 32. [b] So we have Vettius Aquilinus *Juvencus*.

[c] The actual name, A. VETTI · CONVIVAI occurs in one of the tablets of Caecilius Jucundus. *See* De Petra in the *Atti* of the *Accademia dei Lincei*, 1876, p. 208, No. 79. No fewer than six other Vettii appear in these tablets.

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In early times no doubt such religious objects were placed in the *atrium*; but as civilisation advanced the cooking hearth was relegated to the kitchen or the *pistrinum*, and with it went the tutelary deities. At a later period they were to be found close to the house door.

In the present case a room of irregular shape (fig. 1 c), entered from the *atrium*, contains the *ædicula* or shrine of the household gods (fig. 1 d, and fig. 3). Its two columns, supporting a richly decorated pediment, project about eight inches from the wall. Between these columns, at the back of a niche, we see

Fig. 2. Room in the House of A. Vettius, at Pompeii, shewing disposition of the wall paintings and mural decorations.

at the bottom of the picture an enormous serpent, with beard and crest, advancing through bushes to devour the offerings on a burning altar.

Above this the main field is occupied by three figures, two of which, similar in dress and pose, advance on tiptoe, as if dancing, towards the centre, from right and left respectively, though turning their heads in a direction different from that

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in which they are going. Each carries a *rhyton* raised aloft in one hand towards the centre, the other arm being bent and carrying the *situla*.

They wear high boots and short tunics, girt up with a chlamys in youthful Bacchic style. Their heads are wreathed.

Between them, facing the front, stands a male figure, with toga covering the back of the head, the left hand holding the *acerra* or box of incense, the right extended with the *patera*.

Fig. 3. Lararium in the House of A. Vettius at Pompeii.
(From a photograph by Brogi, of Naples.)

There are no traces of a wreath in this case. Above are three garlands tied with ribbons.

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The architrave and cornice of the pediment are richly decorated, the mouldings being coloured red, white, and blue;[a] and within the tympanum appear the sacrificial knife, and a *bucranium*, as if heraldic supporters to the central *patella*, or rather *lanx*, for the dish is a large one, so as to fill the middle of the pediment.

The central figure has been supposed to be female, and if so would be Vesta. That such, however, is not the case may be seen by the corresponding picture in the *pistrinum* of the *casa del labirinto* just across the way, where Vesta does occur, but, like any other lady of the period, dressed in white tunic reaching to her feet.[b] Such mistakes as to sex are not uncommon, as may be learned by reference to Helbig's *Wandgemälde* (Nos. 96B and 71).[c]

Most persons probably would recognise in this central figure the *Genius* of the house, or of its master, and in his companions, the *Lares*; and I for one at first held that opinion without any hesitation, accounting for the serpent as a *local genius*.[d]

But although this is, I believe, the generally accepted and probably correct view, it is not altogether satisfactory, as apparently finding no place for a time-honoured class of deities specially characteristic of the Roman hearth and home, I mean the *Penates*; and so great an authority as Marquardt may be cited in favour of the view that the figures bearing emblems of abundance are the *Penates*, whose name is connected with *penus*, store of food; while the *Lar* before the time of Augustus regularly occurs in the singular when a particular house is referred to.[e]

One feels also that the two youths in question are hardly suitable representatives of the tutelary spirit of the house, the *Lar familiaris* or *familiai Lar pater*, as Plautus calls him.[f] Such a venerable character would be more recognisable in the

[a] Marriott, in *English Illustrated Magazine* for 1896, 451.

[b] Helbig, *Wandgemälde der vom Vesur verschütteden Städte Campaniens*, 65, see *Monumenti inediti pubblicati dall' Instituto di Corrispondenza Archeologica*, iii. 6a.

[c] The Dionysus of the Monument of Thrasyllus and the famous charioteer on the Mausoleum frieze have been taken for women on account of their dress.

[d] Compare the serpent in the painting inscribed "Genius hujus loci montis." *Pitture d'Ercolano*, i. 207.

[e] *See* Wissowa in Roscher's *Ausführliches Lexikon der griechischen und römischen Mythologie*, 1876.

[f] Di Penates meum parentum, familiai Lar pater, *Mercator*, v. i. 5. It is to be observed that in the above line *Penates* in connected with *parentum*, *Lar* with *familiai*. In this scene the *Penates* and the *Lar* are twice mentioned, the former (as always) in the plural, the latter in the singular. The plural *Laribus familiaribus* occurs in Plautus, viz. *Rudens*, 1207, where all the gods of the hearth are implied. In *Mercator*, 5, 2, 24, the *Lares* are *viales*, the protectors of the wayfarer.

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grave personage who occupies the centre of our picture. Then the serpent would represent the *Genius*.

It should be noted, however, that Helbig (like Macrobius)[a] speaks of Jupiter and Minerva as *Penates*, and he is followed by Sogliano and others. They would therefore, I suppose, take these youths as *Lares*, and the central figure as the *Genius*. It is of course possible that the *Penates* were represented by separate figures in the round. Where doctors disagree it is confessedly difficult to decide, and there is only one thing quite certain about *Lares* and *Penates*, and that is that the Romans themselves in historic times were assuredly as much at sea on this subject as any of ourselves.

The monuments unfortunately are for the most part devoid of decisive inscriptions. There are indeed exceptions. A coin of the *Caesia gens* bears a representation of the *Lares* with their name,[b] and Mr. Grueber has also shown me a denarius of the *Sulpicia gens* of about the same date (91 B.C.), on which are figured the twin heads of the *Penates* and the inscription D. P. P.

Nevertheless these do not help us much to distinguish between the two sets of deities, for though the *Lares* are duly attended by their watchful hound,[c] they are in other respects like the pair of young spear-wielding *Penates* that Dionysius of Halicarnassus had often seen seated in temples.[d]

Writers of imperial times, as Persius,[e] speak of the "girt up" *Lares*, and it must have been hard to distinguish them from the warlike young *Penates* even in the last century of the Republic, to which these coins belong. These *denarii* represent, of course, the *Lares* and *Penates* of the State, which may well have been always plural (or rather dual); with the domestic *Lares*, however, the case is to my mind very different.

The older Roman, such as Plautus, undoubtedly speaks of a *Lar* as the one head of the family remaining in sole and undivided authority through several generations, and the somewhat crusty old *Lar* of the *Aulularia* is not at all the sort of person to brook any interference from a rival. It seems to me, too, that he cannot have been dressed in the peculiar fashion of these Pompeian household gods, for if he had it would have been quite unnecessary thus to introduce himself to his audience: "Ne quis miretur qui sim, paucis eloquar. Ego Lar sum familiaris, ex hac familia, unde exeuntem me adspexistis."[f] If the speaker had been in a

[a] *Saturnalia*, III. iv. 8.

[b] Babelon, *Description historique et chronologique des monnaies de la République Romaine*, 281.

[c] *See* Ovid, *Fasti*, v. 137-142.

[d] I. 68. [e] V. 31. [f] *Aulularia*, prologue, 1-3.

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costume peculiar to *Lares*, short tunic, etc. there would certainly have been no need for such explicit announcement.

We must not forget, however, that in the age to which these Campanian pictures belong the early beliefs of ancient Rome had been totally obscured and thrown into confusion by the influx of foreign ideas, Oriental and Egyptian, as well as Hellenic, and it is asking too much of the Pompeian decorator to expect him to evolve from this tangled web the true and exact representation of Rome's primitive cult.

Much ink has been shed on this subject, but those who would learn what is to be known will save themselves much trouble and some bewilderment if they consult Wissowa's excellent article on the *Lares* in Roscher's *Lexikon*. The twenty-nine columns of close print may, for our purposes, be thus briefly summarised:

As to the domestic cultus, the word *Lar* is by older writers used almost always in the singular. But there were *Lares publici* as well as *privati*. When Augustus restored the *Compitalia*, or festival in their honour, he assigned to each *vicus*, in his fourteen *regiones* of the city, a *compitum Larum* with a pair of *Lares compitales* (one for each of the crossing roads, according to Marquardt), and the statue of his *Genius* was added to this original pair.

This innovation extended to the domestic cult, and in place of the original single *Lar familiaris* the two *Lares* of the *compita* were introduced as supporters of a central *Genius*, who, instead of the emperor of the public shrine, represented the master of the house [a] in the private *lararium*.

The theory that *Lares* were souls of ancestors will not explain such cases as the *Lares permarini*,[b] or the interest of slaves in the worship of the *Lares*.[c] We must consider them in relation to other household gods. Of these *Vesta* is the impersonation of the flame of the hearth. The *Penates* are deities of the store-chamber. The *Genius* represents the generative power of man, and is honoured as the *Genius* of the master of the house and as preserver and propagator of the family.

With the *Lares* the case is different. Their worship had its roots outside the house, and its connection with the hearth was of comparatively late origin. The idea of the *Lares* is fundamentally *local;* it belongs to the city, the district (*pagus*),

[a] *See* Helbig, *Wandgemälde*, 59 *b*, and C. I. L. 10,861.

[b] These were the deities of the sea to whom Æmilius dedicated a temple in the *Campus Martius*, *Livy*, xl. 52. *Cf.* Baehrens, *Fragmenta Poetarum Romanorum*, 54.

[c] *Cf.* Cato, *De agricultura*, 143.

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the landed estate,[a] or the street (*vicus*), whereas the *Genius* originally was connected with persons.

On the denarius of L. Caesius we have the *Lares praestites*, but unfortunately nearly all our monuments of the domestic *Lares* are later than the reform under Augustus,[b] and at Pompeii *Lares* are never found painted singly. The two *Lares* are sometimes with a *Genius*, sometimes with *Vesta*, at times with both; occasionally other deities are present who may be taken as *Penates*.

According to Wissowa's view, then, we have in the picture before us the *Genius* of A. Vettius supported (*pace* Marquardt) by two *Lares*.

Putting aside the less important ornamental detail, we have still to deal with two classes of wall-paintings, viz. on the one hand the large central pictures, which may be said to represent easel-painting, and on the other the continuous line of figures forming a frieze.

These friezes in the large *oecus* (Fig. 1 E) give us a vivid picture, or rather panorama, of the arts and crafts of Italy in the first century of our era.

We see the makers of garlands with their flowers heaped on just such a table as may be seen in actual marble hard by. A goat serves them as a beast of burden to carry the flowers. How important an item wreaths were in ancient life may be guessed from the fact that Athenaeus devotes to them twenty-six sections of his fifteenth book.

Then we have a unique representation of the process of coining, of which, however, I have treated sufficiently in a paper read before the Numismatic Society.[c]

A third frieze is that of the fullers, a class in great request among a togaed people, and familiar to us in the more prosaic realism of the paintings from the Pompeian Fullonica in the National Museum at Naples.[d]

Next we see the vine-dressers, "Laeta operum plebes festinantesque coloni,"[e]

[a] Tibullus, I. i. 19, 20.

Vos quoque, felicis quondam, nunc pauperis, agri
Custodes, fertis munera vestra, Lares.

So Cicero, lucos in agris habento et larum sedes, *De Legibus*, II. 19; *cf.* 27.

[b] In the Bronze Room at the British Museum (wall-case 50 and 51), there is a shelf filled with statuettes of *Lares*, some in the later dancing pose, but others at rest, with *cornucopiæ* and *patera*, resembling the Genius. These latter, perhaps, represent the form of the *Lar* before Augustus.

[c] See the *Numismatic Chronicle* (1896), pp. 53-58, and pl. vi.

[d] *See* Helbig, *Wandgemälde*, No. 1,502; *Museo Borbonico*, iv. 49.

[e] Ausonius, *Mosella*, 163.

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and the oilmakers, representatives of the two industries that, as Sir Charles Newton remarked, superseded the cultivation of corn by Roman agriculturists when the price of the latter staple was artificially lowered by the policy of the emperors.

Again, we have a wine-shop in full work; and lastly, there is a Bacchic procession with its noisy revellers.

In all these shifting scenes we find dainty little winged loves as ideal substitutes to do the work of ordinary men.

Finally we have to deal with the large pictures occupying for the most part a central position on the walls. Their importance does not rest entirely on their own merits as works of art. They are also very valuable as often giving a clue to the treatment of their subjects by the great masters of the Hellenistic, or even an earlier age; those painters of whom we glean little more than names from the meagre notices by Pausanias, or from that undigested mixture of fact and fancies the *Naturalis Historia* of Pliny.

For Helbig long ago proved that Pompeian wall-paintings of the ideal class, paintings in which execution generally falls short of conception, may to a great extent be assumed to represent more or less faithfully lost masterpieces of Hellenistic art.

The principal pictures are as follows:

1. Achilles in Scyros.
2. Herakles and Auge.
3. Urania.
4. Leander swimming to Hero.
5. Theseus deserting Ariadne.
6. Cyparissus.
7. Perseus and Andromeda.
8. A beardless Zeus.
9. The infant Hercules strangling serpents.
10. The death of Pentheus.
11. Dirce and the Bull.
12. Daedalus and Pasiphae.
13. Ixion on the wheel.
14. Dionysus discovering Ariadne.
15. Contest between Pan and Eros.

Of the first eight little is to be said.

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No. 1 is unfortunately half ruined. The subject of Achilles in Scyros had been previously found seven times at Pompeii.[a]

In No. 2 we have almost a fac-simile of the painting in the *Casa d'Ercole et d'Augia* at Pompeii.[b]

In No. 3 Urania points with a wand to a globe marked with astronomical signs and standing on a square basis, just as she did in the picture formerly to be seen in the "Villa of Diomed," and others of the seven Pompeian renderings of this subject given by Helbig.[c] Sogliano adds three examples.[d]

No. 4 is a poor performance. The subject occurs four times elsewhere in Pompeii.[e]

Nos. 4 and 5 are inferior to the rest. The exaggerated proportions of the Theseus in the latter may be attributed to a desire to emphasize the hero by comparative size, as is often done in the case of deities. Or there may be an idea of caricature.

Ariadne deserted by Theseus appears in Helbig's catalogue no fewer than seventeen times,[f] one instance being from Herculaneum, an example which, formerly in the Blacas collection, is now in the British Museum, in wall-case B in the Gold-ornament Room. In Sogliano's supplement there are seven more.[g]

This abandonment of Ariadne was a favourite theme both in the art and the literature of ancient Greece and Rome.[h]

According to Helbig[i] the composition should be ascribed to the time of Alexander or to that of the Diadochi.

Ariadne's desertion by Theseus and her discovery by Dionysus formed part of the pictorial decoration of a temple of Dionysus at Athens, as did also the death of Pentheus,[j] from which our No. 10 may be derived.

[a] For examples of this subject in relief see the sarcophagus in the Mausoleum Annexe at the British Museum; also Robert, *Die antiken Sarkophag-Reliefs*, ii. plates vi. x.; and Visconti, *Museo Pio Clementino*, v. 17.

[b] Helbig, *Wandgemälde*, 1142. Two more examples are recorded by Sogliano, *Le Pitture murali compane scoverte negli anni* 1867-79, 499 and 500. The Rape of Auge is represented on a Megarian bowl, G 103, in Case E in the Fourth Vase Room, British Museum. See *Classical Review* (1894), p. 326. *Cf.* Furtwängler, *Collection Sabouroff*, i. pl. 73.

[c] *Wandgemälde*, 263, 889-893.

[d] *Pitture*, 243-425.

[e] Helbig, *Wandgemälde*, 1374, 1375; Sogliano, *Pitture*, 597, 598.

[f] 1216-1232.

[g] Nos. 531-537.

[h] See the famous passage in Catullus, lxiv. 52, *seqq.*

[i] *Untersuchungen über die Campanische Wandmalerei*, 157.

[j] Pausanias, i. 20, 2. *See* Helbig, *Untersuchungen*, 256.

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No. 6, Cyparissus, has been found four times before at Pompeii.[a] His story is told by Ovid.[b]

Of Perseus and Andromeda (No. 7) twenty-one examples are recorded by Helbig.[c] These, however, represent Andromeda either close to the cliffs, or seated with Perseus, as do the three added to the list by Sogliano,[d] while in our new picture Perseus is bearing her through the air.

Fig. 4. Wall painting of the death of Pentheus, in the house of A. Vettius at Pompeii.
(From a photograph by Brogi, of Naples.)

[a] Helbig, *Wandgemälde*, 218, 219; Sogliano, *Pitture*, 109, 110.
[b] *Metamorphoses*, x. 106-142.
[c] *Wandgemälde*, 1183-1203.
[d] *Pitture*, 517-519.

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No. 8 is an unusual type of Jupiter. No certain instance of a beardless Jupiter is recorded by Helbig as occurring in Pompeii or Herculaneum.[a]

Nos. 9, 10, and 11, which decorate a *triclinium* (fig. 1 F) by the peristyle,[b] form an important group, the subjects of all three, it will be observed, being derived from the mythical history of Thebes. The death of Pentheus (fig. 4) has never before been found among the Campanian wall-paintings. A photograph of the newly-discovered picture was exhibited at the Society's meeting on December 5th, 1895, by the President, who drew attention to its remarkably modern look.[c]

I shall not, however, dwell upon this Theban group, as it forms the subject of a paper of mine in the *Journal of Hellenic Studies*.[d] Suffice it here to say that in my opinion there are some reasonable grounds for deriving all three of the paintings in question from originals by famous artists living when the influence of the tragedian Euripides was still a powerful factor in Hellenic art.

Another of these richly decorated chambers (fig. 1 G and fig. 2) has, facing the entrance, Ixion on the wheel (fig. 5); while the wall on the left contains Dædalus and Pasiphäe; that on the right Dionysus discovering Ariadne.

Mr. A. S. Murray has pointed out to me a peculiarity in the first of these three pictures, viz. that Ixion is turned with his face to the wheel. His small size is by way of contrast with the gods beside him, for at this late period his former glories were forgotten, and he was looked upon as a criminal to be consigned to infernal darkness as a fit companion for Sisyphus and Tantalus. This, however, is an innovation. The older poets and artists of Greece knew Ixion as a dweller in heaven; and even after his crime and its consequences he was still supposed to remain above the earth. In fact, as Baumeister remarks,[e] he was originally a god, and perhaps the sun-god. It was not till Roman times that he became the fellow-prisoner of Sisyphus and Tantalus; and Apollonius Rhodius[f] (194 B.C.) is the earliest author who makes the lower world the scene of his punishment.

This picture of Ixion seems to be unique among the Campanian wall-paintings. I cannot find one in Helbig's index, or in Sogliano's, or in that of Overbeck's *Pompeji* (last edition, 1884).

Of the three known vases containing this subject, one, the cantharus from

[a] See *Wandgemälde*, 5.

[b] Sogliano, *Il supplizio di Dirce*, 8, note 1.

[c] As to Pentheus, see Hartwig in the *Jahrbuch des Kaiserlich deutschen archäologischen Instituts* (1892), 153.

[d] Vol. xvi. 143-157.

[e] *Denkmäler des Klassischen Altertums*, 766.

[f] III. 61, 62.

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Nola, formerly in the Pourtalès Collection, now in the British Museum,[a] represents the preliminary phase when Ixion is brought before Hera, though not yet bound to the wheel, which is seen beside him in charge of Athena. On the other

Fig. 5. Wall painting of Ixion bound to the wheel, from the house of A. Vettius at Pompeii, (From a photograph by Sommer, of Naples.)

side of this fifth-century vase are depicted, as Mr. Cecil Harcourt Smith has pointed out,[b] still earlier steps in this typical evil doer's career of violence.

[a] It is E 155, in the Third Vase Room, Case G. *See* Kluegmann, *Memorie dell' Instituto di corrispondenza archeologica*, 2, p. 388, and Raoul-Rochette, *Monuments inédits*, pl. xl.

[b] See *Classical Review*, ix. 277.

[c] *Op. cit.* pl. xlv. p. 179, note 3. *Cf.* Stephani, *Compte-rendu de la Commission Impériale archéologique* (1862), 157.

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Again, Raoul-Rochette[c] describes an amphora found at Ruvo, on the neck of which Ixion is represented as fastened to the wheel (but not with serpents) in the presence of Zeus (according to Raoul-Rochette Æacus), Hephaistos, Iris, who carries the *caduceus*, and another winged figure.

The third vase is a red-figured Campanian amphora found at Cumae, and now in the Berlin *Antiquarium*.[a] Here Ixion, in the open air, is attached to the wheel by a serpent for each hand and foot, while two of larger size twine round him. The persons present are an Erinys, two winged females (perhaps Clouds), Hermes, and Hephaistos.

The Barberini "Protesilaos" sarcophagus in the Vatican[b] has on one end Ixion, between Sisyphus and Tantalus, in accordance with the later version of the story. Here also Ixion is bound to the wheel, but there are no serpents.

A second sarcophagus is mentioned by Kluegmann[c] as follows: "l'altro conservato solamente in un disegno del codice Pighiano (Jahn Ber. d. sächs Gesellsch. 1856 tav. II, a)."

To these Kluegmann adds a miniature in a manuscript of Vergil.[d] Here too there are no serpents.

In the gold-ornament room at the British Museum (No. 334, case U) there is a comparatively late Etruscan scarab representing Ixion "standing to front with hands tied to rim of large wheel behind him, inscribed IΨΣIVN."[e]

Our Pompeian picture then is a most welcome addition to the still scanty stock of monuments which illustrate the curious myth of Ixion.

In No. 12, the voluptuous frame and sensual expression of the infatuated Pasiphae contrast well with the skilled artificer's sinewy form. Our picture corresponds with those previously found in Pompeii.[f]

The Dionysus (No. 14) has suffered more than its two companion pictures.

This discovery of Ariadne by Dionysus has previously been found, according to Helbig, seven[g] times in Pompeii and once in Herculaneum. In all instances but one Ariadne is sleeping, as she is in the Pompeian example which Sogliano adds to this list.[h]

As in many other cases, the close relation of these numerous replicas points to

[a] Furtwängler, *Beschreibung*, 3023.
[b] Visconti, *Museo Pio Clementino*, v. 19.
[c] *Memorie dell' Instituto di corrispondenza archeologica*, ii. 391, note 2.
[d] Mai, *Pict. Ant.* tav. xv.
[e] *Catalogue of Gems*, 68.
[f] Helbig, *Wandgemälde*, 1206-1208.
[g] *Wandgemälde*, 1233-40.
[h] *Pitture*, 538. *Cf.* the relief on a sarcophagus, Visconti, *Museo Pio Clementino*, v. 8.

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their descent from a common archetype. This archetype Helbig finds in a painting seen by Pausanias[a] in a temple of Dionysus at Athens.

Last, but by no means least, in the above list is the contest between Pan and Eros,[b] which occupies the chief position in another apartment (fig. 1 H), beneath a seated Leda with the swan. In Herculaneum there was found a picture corresponding in almost every detail with the one now before us. A similar picture was discovered at Pompeii, but in too damaged a state to allow of the recognition of details.[c] In two other Pompeian paintings recorded by Helbig the pair of wrestlers appears, but Dionysus is not to be seen.

Sogliano has added an instance,[d] in which there are, indeed, the wrestlers, but Aphrodite alone is with them, and they are about equal to her in size; Pan looks quite old, and there is, in short, no resemblance to our picture.

For examples of this favourite subject, however, we need not confine our search to the Campanian wall-paintings. The wrestling bout of Pan and Eros is to be found in other classes of artistic products. Thus the Berlin *Antiquarium*[e] contains this group in a clay imitation of a metal cup; and in Mr. Salting's collection, now exhibited at South Kensington, it appears in the form of a terra-cotta from Tanagra.

Whether our Vettius was a kinsman of the Vettii who appear in the pages of Tacitus, in connection with the imperial court, it is impossible to say. That he was a man of importance and of taste is pretty clear; and whatever he may have been to his own folk in the first century, he must be reckoned as a benefactor to us, his heirs, in the nineteenth.

In discussing the above paper, our Fellow Mr. H. A. Grueber, stated that he was of opinion that the series of wall-paintings representing arts and manufactures was intended to illustrate the occupations and history of former members of the *Vettia gens*. He came to this conclusion from the circumstance of the scene showing the process of striking coins at the mint. Unless something of this nature is intended we cannot well account for such a scene in the house of an apparently private individual.

[a] I. 20, 3. See *ante*, p. 12; and my paper in the *Journal of Hellenic Studies*, xvi. 143-157.

[b] This contest between Pan and Eros, the Theban trio, and the Cyparissus were all discovered in the first five days of November, 1894. See *Notizie degli Scavi*, December, 1894, p. 406.

[c] Helbig, *Wandgemälde*, 404, 405.

[d] *Pitture*, 381. See *Monumenti*, x. tav. 35; *Annali* (1876), p. 296.

[e] XVIII. 3.

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Various members of the family of the Vettii filled the post of moneyers at Rome during the first century B.C.

Of P. Vettius Sabinus, who was a moneyer or mintmaster in B.C. 101, there is a quinarius, with the head of Jupiter on the obverse, and victory crowning a trophy and the legend, P. SABIN. Q. (Quinarius) on the reverse. This coin appears to have been coined on a special occasion, when there was a large distribution of corn at Rome amongst the populace.

Again, in B.C. 69, we find another member of the family, T. Vettius Sabinus, occupying a similar post. His coins, which are of the denarius class, have on the obverse the head of Tatius, king of the Sabines, and the legend, SABINVS; and on the reverse, Spurius Vettius in a *biga*, and the name of the moneyer, T. VETTIVS IVDEX.

The obverse shows that the family was of Sabine origin, and the reverse records the efforts of Spurius Vettius to secure the election of Numa Pompilius as king. The moneyer had held and still held the post of Curule Ædile, and so adds the title of "Judex" to his name.

Taking this scene in conjunction with the others in the house, it is pretty evident what was the object of the owner in causing them to be painted. He was perfectly impartial, and wished to show, not only the important state office which a former member of the family had held, but also by what means the family had acquired its wealth. For to have been able to erect and adorn a domicile in such a style the owner must have been provided with ample means.

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XV.—*The Prebendal Stalls and Misericords in the Cathedral Church of Wells. By the* Rev. C. M. Church, *M.A., F.S.A., Sub-Dean and Canon Residentiary of Wells.*

Read 12th March, 1896.

I propose in this paper to trace the history of the prebendal stalls in the church of Wells, their number and original arrangement in choir and chapter, and to describe the carved "misericords" still remaining in the stalls.

The eastern part of the church in the thirteenth century was separated from the nave by the choir screen or *pulpitum*, which, crossing nave and aisles, rested against the columns of the first bay westward of the central tower.

The stalls of the choir occupied the space under the open lantern of the tower for 47 feet from the screen to the eastern arch of the tower; the presbytery and sanctuary extended 67 feet further eastward to the high altar.

The number of the stalls was regulated by the number of the prebends founded in the church. That number, which had varied by gradual growth and loss during the century between the episcopate of Robert, 1136—1166, and the reconstruction of the church by bishop Jocelin, 1239, was completed when Dynre (Dinder), the last prebend, was instituted in 1268.[a]

[a] Prebends instituted by

Bishop Robert	20 — 2 lost.
Bishop Reginald	15 — 5 lost.
Bishop Savaric	3
Bishop Jocelin	15
Bishop William	1
Date uncertain	7
	61 — 7 = 54.

Chapters in Early History of Wells, 17, 66, 119 142.

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Two official lists of the Wells prebends and dignitaries, made at the end of the thirteenth century, confirm the number and title of the prebends, viz.:

(a) The return of ecclesiastical property in the first Edward's reign, called the *Taxation of Pope Nicholas the Fourth*, about 1291, in which the beneficial value of each prebend and dignity was estimated.

(b) The order of distribution of the psalter among the prebends for daily recitation which accompanies the statutes of Dean Haselshaw in 1298.

The daily recitation of the whole psalter by the members of the chapter, according to the psalms assigned to their respective prebends, formed part of the *Consuetudines* introduced by the Norman bishops, who moulded the constitution of the English cathedral churches in the twelfth century.[a]

The particular assignment of psalms to prebends must have varied according to the number of prebends, but the following arrangement at Wells, made at the end of the thirteenth century, was complete and final, and long prevailed.[b]

This list is the fullest enumeration of the prebends, according to their titles, in the thirteenth century. The bishop, though not possessing a prebend, is here united with members of the chapter, and occupies his stall both in choir and in chapter-house.

Singulis diebus dicat DOMINUS EPISCOPUS hos psalmos cum confratribus et prebendis totum psalterium quolibet die ut patet inferius.

	Ps. i.	*Beatus vir qui.*	[bonus.]
	Ps. ii.	*Quare fremuerunt gentes.*	
	Ps. iii.	*Domine quid.*	
WEDMORE I.	Ps. iv.	*Cum invocarem.* Cum tribus psalmis sequentibus.	
CLYVA	Ps. viii.	*Domine Dominus noster*	
	Ps. ix.	*Confitebor tibi domine*	
	Ps. x.	*Ut quid.*	
SANCTUS DECUMANUS	Ps. xi.	*In Domino confidam.* Cum tribus psalmis sequentibus.	
CUMBA I.	Ps. xv.	*Domine quis habitabit.* Cum duobus psalmis sequentibus.	
CUMBA XII.	Ps. xviii.	*Diligam te domine.*	

[a] H. Bradshaw.

[b] There is a memorandum in the Chapter Acts 1623, September 17, "Psalmi in choro legendi assignati præbendariis post admissionem," which shows that the use had prevailed, but probably intermittently.

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CUMTONA	Ps. xix.	*Cœli enarrant gloriam.* Cum duobus psalmis sequentibus.	
IATTONA	Ps. xxii.	*Domine Deus meus respice.* Cum duobus psalmis sequentibus.	[Ps. 22, 23, 24 (in later hand).]
HASELBERGA	Ps. xxv.	*Ad te domine levavi.* Cum tribus psalmis sequentibus.	
WANDESTRE	Ps. xxix.	*Afferte Domine.*	
	Ps. xxx.	*Exultabo te.*	
	Ps. xxxi.	*In te Domine speravi.*	
SCANDERFORDE	Ps. xxxii.	*Beati quorum.*	[boni.]
	Ps. xxxiii.	*Exultate justi.*	
	Ps. xxxiv.	*Benedicam.*	
WEDMORE II.	Ps. xxxv.	*Judica Domine.*	
	Ps. xxxvi.	*Dixit injustus.*	
CUMBA II.	Ps. xxxvii.	*Noli æmulari.*	
	Ps. xxxviii.	*Domine ne in furore.*	
CUMBA III.	Ps. xxxix.	*Dixi custodiam.* Cum duobus psalmis sequentibus.	[domine.]
CUMBA IV.	Ps. xlii.	*Quemadmodum.* Cum duobus psalmis sequentibus.	
BOKLONDE	Ps. xlv.	*Eructavit cor meum.* Cum tribus psalmis sequentibus.	
MYLVERTON I.	Ps. xlix.	*Audite hæc omnes gentes.* Cum tribus psalmis sequentibus.	
HENGESTRYNGE	Ps. liii.	*Dixit insipiens.* Cum tribus psalmis sequentibus.	
TYMBERSCOMBE	Ps. lvii.	*Miserere mei Deus miserere.* Cum duobus psalmis sequentibus.	
AYSHULLE	Ps. lx.	*Deus repulisti nos.* Cum tribus psalmis sequentibus.	
CUMBA V.	Ps. lxiv.	*Exaudi Deus orationem.* Cum duobus psalmis sequentibus.	
ESTONA	Ps. lxvii.	*Deus misereatur nostri*	[dominus.]
	Ps. lxviii.	*Exurgat Deus et dissipentur.*	
ILTONA	Ps. lxix.	*Salvum me fac domine.*	
	Ps. lxx.	*Deus in adjutorium.*	
CUMBA XIII.	Ps. lxxi.	*In te domine speravi.*	
	Ps. lxxii.	*Deus judicium tuum.*	

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Dunden	Ps. lxxiii.	*Quam bonus Israel Deus.*	
	Ps. lxxiv.	*Ut quid Deus repulisti.*	
Cumba XIV.	Ps. lxxv.	*Confitebimur tibi.*	
	Ps. lxxvi.	*Notus in Judæa.*	[mundo.]
	Ps. lxxvii.	*Voce mea.*	
Cumba VI.	Ps. lxxviii.	*Attendite populе.*	[juris sui.]
Dulticote	Ps. lxxix.	*Deus venerunt.*	[domine.]
	Ps. lxxx.	*Qui regis Israel.*	
Taunton	Ps. lxxxi.	*Exultate Deo.*	
	Ps. lxxxii.	*Deus stetit.*	
Brent	Ps. lxxxiii.	*Deus quis similis.* Cum duobus sequentibus psalmis.	
Wyvelscumba	Ps. lxxxvi.	*Inclina domine.*	
	Ps. lxxxvii.	*Fundamenta ejus.*	
	Ps. lxxxviii.	*Domine Deus salutis.*	
Ilmynistra	Ps. lxxxix.	*Misericordias Domini.*	
Suttona	Ps. xc.	*Domine refugium.* Cum tribus psalmis sequentibus.	
Holecumba	Ps. xciv.	*Deus ultionum.* Cum duobus psalmis sequentibus.	
Wereminster	Ps. xcvii.	*Dominus regnavit.* Cum tribus psalmis sequentibus.	
Cumba VII.	Ps. c.	*Jubilate Deo omnes.* Cum duobus psalmis sequentibus.	
Cory	Ps. ciii.	*Benedic* i tantum.	
Wormesterr	Ps. civ.	*Benedic* ii tantum.	
Witlakyngton	Ps. cv.	*Confitemini* i tantum.	
Cumba XV.	Ps. cvi.	*Confitemini* ii tantum.	
Mylverton II.	Ps. cvii.	*Confitemini* iii tantum.	
Wedmore III.	Ps. cviii.	*Paratum cor meum.* Cum duobus psalmis sequentibus.	
Berton	Ps. cxi.	*Confitebor tibi domine.* Cum tribus psalmis sequentibus.	
Cumba VIII.	Ps. cxvi.	*Dilexi quoniam.* Cum tribus psalmis sequentibus.	
Wedmore IV.	Ps. cxix.	*Beati immaculati in via.* Cum tribus psalmis sequentibus.	[boni.]

(1—64.)

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CUDDEWORTHE	Ps. cxix.	*Bonitatem cum servo tuo.* Cum duobus psalmis sequentibu . (65—112.)	
CUMBA IX.	Ps. cxix.	*Iniquos odi.* *Mirabilia.* *Clamavi.* (113—160.)	
CUMBA X.	Ps. cxix.	*Principes persecuti.* Cum quinque psalmis sequentibus (161—176. Ps. cxx.—cxxiv.).	
WYTCHYRCHE	Ps. cxxv.	*Qui confidunt in domino.* Cum sex psalmis sequentibus.	
HARPETRE	Ps. cxxxii.	*Memento domine David.* Cum quatuor psalmis sequentibus.	
CUMBA XI.	Ps. cxxxvii.	*Super flumina Babil.* Cum duobus psalmis sequentibus.	
WEDMORE V.	Ps. cxl.	*Eripe me Domine.* Cum tribus psalmis sequentibus.	[Ps. 140, 141, 142 (in later hand).]
DYNRE	Ps. cxliv.	*Benedictus Dominus Deus.* Cum duobus psalmis sequentibus.	
LUTTON	Ps. cxlvii.	*Laudate dominum Lauda Ierusal.*	
	Ps. cxlviii.	*Laudate dominum de celis.*	

Singulis diebus dicetur totum psalterium a predictis Prebendis pro fratribus et benefactoribus Wellensis ecclesiæ.

BYDSAM prebenda Sancti Andreæ.

Cujus vicarius est Magister Scolarum.

The Psalter was divided among the bishop and fifty-three prebends, and there was another prebend, that of Bydsam (Biddisham), to which no psalms were assigned, making the number of prebends at the time fifty-four. The prebend of Bydsam was instituted by bishop Robert to form a fabric fund for the church of St. Andrew, the saint himself was the titular prebendary, and the "master of the schools" held the place of his vicar in the church. Perhaps the two last psalms, 149-150, which are not assigned, were left as the portion of the Saint in the daily *Te Deum* of his church.

This prebend was soon swallowed up and became annexed to the decanal estate, and it does not appear in the lists of later years.

The psalms in this table are assigned to prebends only, and not to dignities, except so far as certain prebends were annexed to offices and dignities. For so at

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this time the prebend of Wedmore Prima was attached to the office of the dean, and the dean sat in the stall of Wedmore; the archdeacon of Wells held the stall of Huish and Brent, and the archdeacon of Taunton the stall of Milverton Prima. The stall of Clyve (Cleeve) was the prebendal stall of the abbot of Bec, in Normandy, admitted as a non-resident canon on condition of his appointment and payment of the stall wages of a vicar choral in the church. The abbots of Muchelney and Athelney held their prebendal stalls of Ilminster and Sutton on the same terms.

The table of prebends in the contemporary list drawn out a few years earlier under the *Taxation of Pope Nicolas IV.* in 1291, contains almost all the same prebends, with the exception of Holcombe, Shalford, Barton, and Warmynster. The dignities, thirteen in number, are also represented; the six above-mentioned dignities have their stalls annexed, and there are seven more, precentor, chancellor, treasurer, the archdeacon of Bath, subdean, succentor, provost of Wells, each with a stall.

In this table the money value only of the several prebends and dignities is estimated.

The number and titles of prebends contained in these two lists at the end of the thirteenth century remained the same through the next two centuries, and down to 1536.

In 1536, the twenty-sixth year of Henry VIII., the king's commissioners were appointed to make a survey, and to return a report upon all church property throughout the kingdom.

The report is contained in the *Valor Ecclesiasticus* of 1536.

A comparison of these tables of the titles and value of the prebends made at such different times as the thirteenth and sixteenth centuries presents remarkable uniformity of result.

In the returns of 1298 and 1536 it appears that there were fifty-four prebends and thirteen dignities, for whom stalls had to be provided. But six of the thirteen dignities had prebends annexed, so that the total number of stalls necessary may be reckoned as sixty-one.*

It is difficult to calculate the relative number of the canons who were resident, and of those who were represented by vicars choral. Provision was made for the whole number of canons in choir and chapter-house, on the theory of the whole number being present at least at times; but data from the registers show how few in proportion were actually resident.

* 54 + 13 = 67 — 6 = 61.

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In 1206 the number of names who subscribed to the instrument of bishop Jocelin's election was 55.[a] The following table supplies the number of residents, so far as can be gathered from the registers, in different years :

1259.	Six dignitaries and 12 canons = . .	18
1284.	After summons for election of a dean, 30 mentioned by name were absent.	
1327.	Six dignitaries present, in all . . .	16
1328.	Five dignitaries, 10 canons present . .	15
1343.	,, ,, . .	19
1392.	,, ,, . .	20
1393.	,, ,, . .	20
1401.	,, ,, . .	16
1408.	,, ,, . .	19
1409.	,, ,, . .	16

In sixteen years, between 1415 and 1547, sixteen and eleven were the highest and the lowest numbers.

In theory each canon who did not come into residence, or was incapable of taking his place, was bound to be represented in the church by a vicar choral. But this rule practically must have had considerable limitations.

Stipends or "stall wages" were due from every prebend (except two or three, as it appears[b]), on a fixed scale proportionate to the value of the prebend, to the vicar choral. At the time of the *Valor* of 1536 there were thirty vicars choral in receipt of stall wages. By the charter of Elizabeth, 1592, the number of vicars choral was fixed; they were to be not more than twenty and not less than fourteen in number.

Probably the number of stalls provided in choir and chapter-house was regulated only by the number of dignities and prebends, for the vicars occupied the stalls of their absent masters, and there were seats provided for them in the lower row, sufficient for the number who would be usually in residence.

The history of the stalls follows upon this description of the prebends.

In the reconstruction of the church in the fourteenth century the chapter followed the number, order, and arrangement of the stalls in choir which had

[a] Some of these names may be ecclesiastics or laymen, but not canons.

[b] It appears from the Valor of 1536, that the prebends of Holcombe and Cory, at the date of that table, had no vicars, but paid towards the "ceroferarius" or taper-bearer, one of the boys who carried a taper in processions.

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been ordained in the thirteenth century. It was necessary at that time to build new stalls because the old stalls of Jocelin's time were in a state of decay, and unsuitable to the new choir.

Great works were going on at Wells during the first half of the fourteenth century. The chapter-house had been finished in 1319; the central tower was being raised; the eastern Lady Chapel is described as "lately constructed" in 1326.

In November, 1325, there is a memorandum in the chapter register that bishop John of Drokensford had given one-half of the proceeds of his visitation to the "new work" of the church. In January, 1325-6, the bishop sent letters[a] to each deanery of the diocese urging all rectors and clergy to stir up their people jointly and severally to aid "the new work," to the exclusion of all other claims, promising forty days indulgence *de injunctis*. Rolls of benefactors were to be sent in, that they "may have all benefit of the spiritual acts of the cathedral body." The great and new work which was now in hand was the extension of the church eastward to its present dimensions. The presbytery of the earlier church of the thirteenth century became the new choir, the presbytery and sanctuary were thrown out eastward, and the church was connected with the detached Lady Chapel by the arcading of the ambulatory or processional path behind the high altar. This work, begun by dean Godelee, was going on during the episcopate of bishop Ralph; and probably it had been completed, when in 1363 the bishop, Ralph, was buried before the steps of the choir and the high altar in the place of the founder or finisher of the church, just as Jocelin had been laid before the altar of the church of his time in 1242.

It was as a part of this great work, and in special preparation for the new choir, that new stalls were ordered to be made by successive chapter acts in 1325 and 1326.

On the vigil of St. Martin, 1325,[b] it was ordained by the dean, John de Godelee, and the chapter, that whereas the stalls in choir were decayed and of bad style, *ruinosi et deformes*, each of the dignitaries and those in office should cause to be constructed their own stall at a cost of thirty *solidi* each.

But the work was great. The money did not come in speedily, and twelve years after, in 1337, dean Walter de London, in chapter, reviewed the unfinished state of the work. Though the resident canons who had borne the burden and heat of the day, *pondus diei et æstus*, had spent more than £1000, there still

[a] Drokensford Register (Som. Record, f. 242).

[b] R. i. f. 173.

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remained a debt upon the church of £200. The dean complains that the non-resident canons (many of whom held the richer prebends) had contributed nothing, "ab omni contributione et subsidio pro defensione et restauratione facienda penitus abstinuerunt," and he calls upon them to bear their part and to come forward, "ad honorem Dei et celeriorem exornationem ecclesiæ.[a]

Then it was ordered that the £200 should be raised by the taxation of the prebends of all non-resident canons who had not contributed to the work.

The new prebendal stalls were now constructed, which remained in the church until the middle of the present century.

The arrangement of the stalls and the order in which dignitaries and canons took their places in the church are thus prescribed in the ordinal and statutes of the thirteenth century.[b]

In the return stalls on the south side at the entrance of the choir, the dean occupied the first stall belonging to the prebend of Wedmore Prima.

Next to him on the right stood the archdeacon of Taunton, if he were a canon (*si fuerit canonicus*), in the stall of Milverton Prima, then the abbot of Bec in the stall of Clyva (Old Cleeve), then the sub-dean.

[a] R. i. f. 200.

Item quia stalli in choro sunt ruinosi et deformes ordinatum fuit eodem die quod quilibet canonici qui sunt in dignitate et officio constanti sumptibus privatis faciant stallos suos et ad hoc si necessarium sit per decanum compellantur.

Item ordinatum fuit per decanum et capitulum in crastino circumcisionis Domini anno Domini 1325, in capitulo quod quilibet canonicus solvet pro stallo suo faciendo xxx solidos, videlicet medietatem in quindena purificationis sancte Marie proxima sequente et aliam medietatem in festo Sancte Michaelis proximo sequente.

Collectors were appointed to receive gifts and enforce payment by ecclesiastical censures.

R. i. f. 174 in dors.

Johannes de Godelee decanus Ecclesie Wellensis et ejusdem loci capitulum discretis viris Roberto de Wamberg concanonico nostro et officiali de Mydelton clerico, salutem.

Cum nuper nobis in domo capitulari Ecclesie Wellensis predicte convenientibus ad honorem dei et decorem ipsius ecclesie propter debilitatem et vetustatem stallorum nunc in ipsa ecclesia existentium certam pecunie summam a singulis concanonicis nostris certis temporibus solvendam pro novis stallis in eadem ecclesia faciendis unanimi nostro consensu concurrente ordinaverimus, vero pro hujus pecunie receptione ad presens intendere non valemus, ad colligendam et levandam hujusmodi pecuniam literamque acquietantie faciendam de soluto, et etiam de non solvendis censuris ecclesiasticis si necessarie fuerunt canonice compellandum, vobis et utrique vestrum et conjunctim et divisim vices nostras committimus cum coercionis canonice potestatis.

Datum in capitulo nostro nonas Januarii 1325.

[b] "Ordinatio clericorum in choro et in capitulo," Creyghton MS. in library of the Dean and Chapter of Wells, copied in Lambeth Library MS. 729, and printed in Reynolds' *Wells Cathedral.*

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In the return stalls, on the north side, first was the stall of the precentor, at the entrance of the choir, then stood the abbot of Muchelney in the stall of Ilmynster, then the succentor, and the provost of Combe.

The stall of the bishop was at the extreme east end of the choir on the south, next to him on the west was the archdeacon of Wells in the stall of Huish Brent, and the chancellor. Opposite on the northern side stood the archdeacon of Bath, the treasurer, and the abbot of Athelney in his stall of Long Sutton.

We do not find any fixed order for other stalls.

In the middle stalls on the north and south, in the upper row, stood the canons senior in order of installation or of age, the master of the schools in the stall of Bydsam (Biddisham), priest-vicars, and deacons admitted by dispensation (*ex dispensatione*). In the lower row of stalls were younger deacon canons, and deacons and sub-deacon vicars, and other clerks, perhaps chantry priests.

There were two forms for the boys. The boys on the foundation, *pueri canonici*, on the first form; others, probationers perhaps, on a lower form, according to age and size.

Such was the arrangement of the stalls in the choir, but a different arrangement was observed in the chapter-house.

According to the original idea of a chapter, the canons met in the chapter-house for their public and private business, as being the council chamber of the bishop, the parliament house of the diocese, the daily home of the chapter, *domus capitularis*. The bishop's stall was in the centre of the eastern facet of the octagonal hall, and the stalls of the leading members of the capitular and diocesan hierarchy were gathered round him in stalls in close proximity on either side.

On his right hand sat the dean, then the archdeacon of Wells, the chancellor of the church, the archdeacon of Taunton, the abbot of Bec, and the subdean.

On the left hand of the bishop were the stalls of the precentor, the treasurer, the archdeacon of Bath (if he were a canon), the abbot of Muchelney, the abbot of Athelney, and the succentor.

In the upper row of stalls in the octagon the canons sat in order, priests, deacons, and subdeacons, and possibly the priest-vicars, *ex dispensatione*, by tolerance, but without a voice in chapter. On the lower bench vicars who were deacons, and subdeacons and other clerks in minor orders. On the floor stood the boys, in their order on either side of the desk (*pulpitum*), which stood east of the central pillar, and before the bishop's stall.

Such was the provision made for the fit and orderly assembly, day by day, of the staff, and of the rank and file of the church in their chapter-house for public religious observances by the whole body, and for the transaction by dean and

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chapter of their own business in privacy, with closed doors. The beautiful chapter-house was not, as now, a bare and empty hall for most days of the year, but it was the daily home and centre of the life of the community, where each member held communion and fellowship one with another and with their brethren departed. Every morning when the office of prime was over, at 9 a.m., and before the chapter mass in the church, the choir passed in orderly procession up the great ascent of stairs into the chapter-house.

The business of the day was preceded by an office, the Martyrology or commemoration of the faithful departed members of the body, the Psalm cxx. (*Levavi oculos*), or on special occasions the *De Profundis*, were said, and the lection of the season was read, all standing in their places. The obits or anniversaries of benefactors were announced from the *pulpitum* in front of the bishop's stall, and the appointed services for special days, and on Saturday for the week, which had been drawn up by precentor or succentor, were read out. Then followed the business transactions, hearing of complaints, making of inquiries, passing of sentences, correcting of faults before the whole body; then, when the vicars and choristers had left, the private conferences, the decrees and ordinances of the dean and chapter.[a]

So the meeting day by day in the chapter-house formed part of the daily life of the cathedral body; all had their places and their several interests in this common home of the community, so stately and so beautiful, to which founders and architects and workmen of two generations had given their best, in order that the house of the business of the church should be a worthy appendage to the house of worship and the house of God.

In the sixteenth century we enter on the period of innovation upon the old constitution, and of the degradation of the fabric and of its interior arrangements.

The *Valor Ecclesiasticus* of Henry VIII., in the year 1536, may be taken as one of the closing acts of the medieval period of the church establishment. It was a deliberate survey of the church property, and of the money value of its offices and benefices, made by the king on the very eve of the violent alienation of a great portion of that property and the breaking-up, for good or evil, of the old order.

[a] 1506, Nov. 3. "'The Book of the Statutes' and the book called 'the Blak register' to be "chained on the great chest in the chapter-house. Each canon to have a key. Precentor to make chains and keys for each canon 'ex sumptibus ecclesie.'" Reynolds' *Wells Cathedral*, App. iii. from Liber Ruber, p. 217.

1507, May 13. "The ordinance of the chantry of bishop Bekinton of blessed memory was read in the chapter-house." Reynolds, i. 225.

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Assessment was soon followed by spoliation; the church of Wells suffered in its turn at the hands of spoilers.

In the next year, 1537, Thomas Crumwell, the "vice-gerent" and "lord privy seal," was elected dean of Wells at the recommendation of the king. During the three eventful years in which he was dean, the complete spoliation of the monasteries was carried out to the bitter end under his administration. The trial or judicial murder of Richard Whiting, abbot of Glastonbury, in the palace at Wells, in November, 1539, was one of the last acts of the tragedy. It preceded Crumwell's own fall and execution by eight months, on July 28th, 1540.

During those three years Crumwell had not time to do much at Wells, but he had called for returns of the statutes and of the property of the church. An inventory of the jewels and valuables of the church was ordered to be prepared, and a revision and reform of the statutes had been purposed by him. On his fall, and on Henry's death, another band of spoilers gathered round the boy-king Edward, and the houses and lands of bishop and chapter were the next objects of their greed. As in the case of the monasteries, forced or selfish surrenders preceded plunder.

In 1540 Fitzwilliam succeeded Crumwell as dean, the last dean ever elected by the chapter of Wells after licence from the bishop. In 1547, the first year of Edward VI., Fitzwilliam surrendered the dean's estates and house to the Crown, and house and manors were made over to the protector Somerset. A new deanship was "re-created" by Act of Parliament, and a new dean was appointed by the Crown, Goodman by name, but shorn of his former estates and of his goodly house, and scantily endowed out of "parcels" of the archdeaconry of Wells and the estates of the suppressed provostship of Wells, and of the succentorship.

The archdeacon of Wells at that time was the notable Polydore Vergil, an Italian from Urbino, naturalised in England, the last collector of Peter's pence in England, the first foreign writer of a connected history of England.[a] He, too, had surrendered the archdeaconry in 1547, its estate and house, at the price of a life interest in the profits, rents, and commodities of the archdeaconry, and he was allowed by the favour of Henry a peaceful retirement to Urbino, free of pains, penalties, and forfeiture, where he lived until 1555-6.

In 1548, July 12, the bishop, William Barlow, surrendered for a price twelve

[a] Polydore Vergil's *English History* has been edited by Sir H. Ellis, for the Camden Society, 1846. He defends him as "an historian beyond his age both in his power of discrimination and in his acquirements." See *Archaeologia*, li. 107, for his other writings.

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manors of the bishopric,[a] and in 1550 the palace was made over to the Protector, Somerset.

The dean's house was granted to the bishop, and Somerset entered on the possession of the palace for his little day, until his execution on the scaffold in 1552. Another occupant, Sir John Gates, vice-chamberlain of the court, had succeeded Somerset at the palace, also to have a short-lived tenure, and to meet with a like end on the scaffold. On Mary's accession the palace once more reverted to the bishop, and later on, in Elizabeth's time, the deanery was restored to the dean, William Turner.

At the close of the century the charter of Elizabeth, of November 25, 1592, to the dean and chapter of Wells, attempted to give settlement after the late upheaval and changes of property by confirming all existing dignities and prebends in their temporalities. At that time five of the former dignities had been suppressed; there had disappeared from their stalls in choir and chapter, the abbots of the suppressed houses at Cleeve, Muchelney, and Athelney, the provost of Wells, and the succentor. The prebends of Wedmore Prima, and Biddisham, the estates of the provost, viz. the fifteen Combes, and of the succentor, had been absorbed in the deanship, and the dean henceforth sat in the stall of Currie, annexed to the dignity instead of Wedmore. The staff of the church now consisted of forty-nine prebendaries, of whom seven held office as dignitaries, and the dean, now no longer the elect of the canons, but appointed by the crown.

By a new arrangement the eight dignitaries and three canons, eleven in number altogether, who were then actually in residence, were constituted the executive and governing body of the whole chapter during their life, under the title of canons residentiary; the number was to be limited to eight on their decease, and the dean and canons residentiary, a council of eight, were henceforth to form the governing chapter, under the title of "the dean and chapter."

At the same time, the vicars choral, who during the period of unsettlement had been moving for independence, and seeking "to incorporate themselves into a particular bodie, and to sever themselves from the bodie of the dean and chapter," also received a royal charter which confirmed them in their separate endowments and temporalities, and provided for the due continuance of stall wages from prebends "according to custom." The number of the vicars, who

[a] "Indenture between the bishop and the High and Mighty Prince Edward, Duke of Somerset, July 12, 2 Edward VI., 1548, confirmed by the chapter, January 10, 1548-9." Ledger E. f. 21.

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had been thirty in 1536, was now reduced to twenty as the greatest number, fourteen as the least.[a]

Among these, the vicars of the abbots of the suppressed houses of Cleeve, Muchelney, and Athelney still held their places in choir, and continued to receive stall wages.[b]

In the troubles of the seventeenth century the church of Wells was brought under the harrows of Puritan tyranny. The choir was closed, the chapter-house put up for sale at the price of £160; all services were forbidden, except the "prophesying" of Cornelius Burges, who ruled from the deanery as minister of "the late cathedral." But if the choir was disused it does not appear that the stalls were destroyed.

When the Restoration came, Dean Creyghton, in 1664, could put out an appeal to the holders of the fifty prebendal stalls to join in the repair of their separate stalls at their own expense.

An act of the Dean and Chapter, dated 6 July, 1664, recites that "the cathedral church brought to ruin in the late civil troubles had been restored by the resident canons almost from its foundations, at an expense far beyond the means of the chapter, and now they desire and ordain that the non-residentiary canons who have not contributed (*ne quadrantem quidem*) towards the repairs of the fabric should at least restore and beautify their own stalls at their own expense, for the glory and honour of the church, for their own comfort and dignity, for an example to posterity." A list of prebendaries holding the fifty stalls follows, with marginal notes in a later hand marking a few donations of £2 2*s*., each in answer to the appeal. Residentiary chapters have in late times been called hard names, "a selfish oligarchy," "*ignavum pecus*," "*fruges consumere nati*." At least the residentiaries at Wells in 1664, as in 1337, were not unmindful of the duties and responsibilities of their heritage. They could honestly say they had borne the burden and heat of the day, and could fairly appeal to their non-resident brethren to take their share in the recovery of their church.

Some visible records still exist of the liberal expenditure of the dean and canons of the Restoration time. The glass in the west window of the church and the

[a] In later times the number was allowed to drop to eleven, until 1875, when the number was increased to fourteen.

[b] To this day the two senior vicars receive from the Dean and Chapter stall wages on the stalls of Cleeve, which was the stall of the abbot of Norman Bec, and of Sutton, formerly the stall of the abbot of Athelney, King Alfred's foundation. The impropriator of the stall of Ilminster appears to have disregarded his obligation. In 1592 that payment had been in arrears for twenty-five years, and the debt to the vicar amounted, at £4 a year, to £104.

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great brazen lectern were the gifts of dean Creyghton, afterwards bishop, 1670. A new organ was given by him, which was in use for near 200 years, and the hangings[a] to cover the bareness of the east-end wall, still to be seen in old prints of the church. He bore his part also in the restoration and furnishing of the library by the gift of £300 and many valuable books. Dr. Busby, the treasurer at this time, better known as the great head master of Westminster school, was also the giver of more than £300 in money towards the bookcases and present furniture of the library, besides many valuable books, which, he says, he contributed as a self-imposed fine for his non-residence during his duties at Westminster. To him also the church owes the large silver-gilt alms-dish in which the offerings at the altar are received in present use.[b]

Scarcely twenty years had passed after the restoration of the church when the mob of Monmouth's rustic followers invaded and damaged the church. A record is preserved in the chapter accounts of 1 July, 1685, of this storm which swept over the town and the church for a few days. On that day, Chancellor Holt, one of the chapter, contemporary with the Restoration, held the quarterly chapter meeting alone in the chapter-house with the notary, while the mob were in possession of the church and town. He sorrowfully protests against the desecration of the church by the rebellious fanatics, who, that very morning (*manu hodierno*), were in the act of destroying the furniture, breaking up the organ, and had made the house of God the stabling for their horses. Then he adjourns the chapter and all affairs until that day four weeks, "between the hours of 9 and

[a] Arras hangings for the choir, which Leland saw in 1540, had been given by archdeacon Polydore Vergil, "with his armes in the clothes hanging over the Stalles in the Quier: and the words Hæc Polydori sunt munera Vergilii."

[b] In justice to the men of that time laymen as well as the canons these extracts from the fabric rolls of the years of Restoration, 1663—1665, will show their forwardness in the work.

No. 10. "Compotus magistri Thome Holt custodis fabrice" 1663—1664.

Pro Organo Domino Episcopo vendito. £50.

Among the "Dona et perquisita":

De dono Johannis Coventry Balnei militis ad organum. £20.

De dono Willelmi Portman militis et Baronetti ad organum. £20.

De ffrancisco Pawlet Armigero pro Decoratione unius stalli in dicta ecclesia. 02 · 02 · 00.

De Johanne Hall Armigero pro decoratione unius stalli in dicta ecclesia. 02 · 02 · 00.

De Doctore Byam prebendario de Compton Dondon pro decoratione stalli ejus in dicta Ecclesia. 02 · 02 · 00.

Similar sums were also paid by 5 other prebendaries.

Among the necessary expenses:

Thome Wilcox pro le old organ. 002 · 10 · 00.

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12 a.m.," hoping that within that time the wickedness of the rebellion will be crushed.

Nor was that hope disappointed. The next words of the chapter acts record that within six days, on July 6th, the rout at Westonzoyland in Sedgmoor had put an end to the rebellion, and an outburst of thankfulness follows:

"Deus, Deus nobis hæc otia fecit."

We have traced the history of the prebendal stalls, their order and arrangement from the fourteenth century through the changes and mischances of the sixteenth and seventeenth centuries. During that time, as afterwards through the calm, if not torpor, of cathedral life, the order and arrangement in the ground plan of the choir remained the same until the last generation.

What was the form and fashion of the material fabric of the stalls as they stood up in their ranks, the fit and stately furniture of each side of the choir?

We have no picture or visible record of what they were like in their first and unmutilated condition. The stalls in the church of Winchester are said to be almost contemporary work of the date of 1290, and of one generation earlier than our stalls of 1325.

If our stalls matched the excellent work at Winchester, the rich and elaborate carving of lofty canopied stalls of black oak, then we have indeed cause for sorrowful indignation at the degradation which they suffered in the seventeenth century, when rude hands with axes and hammers broke down the carved wood of the canopies, to plant upon the truncated stalls the flooring of galleries and pews.

For, in the sixteenth and seventeenth centuries, when all the services of the church were concentrated in the choir, the nave cut off by the heavy stone screen, and the congregation gathered round the pulpit to hear rather than to worship,

Roberto Taunton ad Organum diversis temporibus prout patet per separales acquiettancias. 217 · 00 · 00.

Johanni Campian pro decoracione chori prout patet per separales acquiettancias suas 106 · 00 · 00.

Johanni Lewes pro Cancellis ad altare prout per acquiettancias patet. 023 · 04 · 05.

Roberti Hill et Tristano Towse pro pulvinis et cooperimentis pluteorum Canonicorum in Choro Ecclesie. 014 · 05 · 06.

No. 11. "Compotus magistri Thome Holt custodis Fabrice" 1664—1665.

De magistro Willelmo Bisse prebendary de Henstridge pro decoracione stalli in Choro Ecclesie. 02 · 02 · 00.

Solut' Roberti Baily pro emendacione horologii. 01 · 15 · 00.

„ Roberto Taunton ad Organum. 07 · 00 · 00.

„ fflagellatori canum. 00 · 10 · 00.

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seats were erected in all vacant spaces in the confined space with little regard to ecclesiastical order or architectural beauty. Carpenters made rude havoc of carved work and delicate tracery.

Fig. 1. Fragment of a Bench-end from the choir-stalls in the cathedral church of Wells. (½ linear.)

The minutes of chapter acts between 1590 and 1690 enable us to trace the gradual invasion and occupation of the choir by seats and boxes, and the revolution which had taken place in the ordering of church services. When seats were ordered to be made in the choir "for the master and burgesses of the city," "for the bishop's, dean's, and canons' wifes," "for all persons of quality," the area in the floor of the church was not sufficient for each to have their proper

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amount of space with due distinction and separation. Consequently new seats must be erected over the stalls in the galleries for the families of "quality."

"Wives and daughters of gentlemen or clergymen in ye liberty, and not foreigners," are to sit in the stalls.

In 1681 a seat is provided for the dean's lady (Bathurst is dean in bishop Ken's episcopate) "in the grates," that is probably the pew within the iron railing of bishop Beckington's chantry chapel on the south side of the presbytery, and for great ladies, Mrs. Baylie at one time, Mrs. Poulet at another when bishop Kidder was bishop, "in the gallery over the bishop's seat." So in these times the canopies of the old stalls were ruthlessly truncated in order that a gallery might be built upon them on either side of the choir, with a frontage of panelled and painted wood-work, and approached by stairs behind from the aisles. The lower row of seats below the prebendal stalls was divided into enclosed pews, except where the vicars-choral and the choristers stood.

Henceforth for several generations on the south side of the presbytery a curtained pew occupied the interior of bishop Beckington's chantry chapel, enclosed within "the grates" of fifteenth-century ironwork, and the stone canopy work over the chantry altar of old time which the bishop had consecrated at his grave, now covered the privileged seats of the ladies of the chapter;[a] but it was reserved for the restorers of this ninteenth century to thrust aside that historic monument, unique in the church as a specimen of combined richness of carving and colouring, in order to obtain a few more feet for the "free seats" which now crowd the presbytery. Other privileged persons sat in pews on the northern side of the presbytery. At that time the monument of bishop Still was raised on the south side of the altar in the place of the sedilia. Bishop Berkeley's monument more ambitiously took the north side of the sanctuary. The hangings with which bishop Creyghton had covered the bare face of the eastern wall remained there in the memory of those still living.

Such was the condition of the choir as it is described in engravings and pictures of the last century, until the modern reconstruction of the choir and presbytery between the years 1848 and 1854. Mutilated as were the oaken stalls and reft of their canopies, the old seats of the prebends still remained each in their place, with their misericords underneath, the slender dividing shafts between

[a] Extracts from Chapter Minutes illustrate the differencos, political as well as social, in these ordering of seats:

In 1590, April 1. Seats in ye Quire to be made for ye Canons wives and proper to them, and none other.

1595. "The new seats in the Quire to be removed."

In 1618, Oct. 15, there is a notice in the Corporation records, "that the seats which are to be

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each supporting the carved hoods of each stall, all being the workmanship of the men of dean Godelee and Bishop Ralph.

This was the appearance of the stall work on the north and south sides of the choir, as seen and drawn in 1848, before the destruction took place.

Some fragments of the panel work of the upper galleries are preserved in the chapter library.

But in the middle years of this century a reconstruction of the choir was made, with a zeal not according to later knowledge, and innovations both in the ancient order and in the material and designs of the stalls, were introduced.

On the next page is a copy of the ground plan and arrangement of the stalls in choir, as made in dean Jenkyns's handwriting in 1846, corresponding with the old order as it had come down from the fourteenth century.

In the changes made in 1848, the wooden stall-work was removed altogether, both the upper galleries and the old and mutilated stalls; the stalls were thrown back between the columns in order to give more width to the choir and to display the columns to their bases. Stalls of stone, with elaborately carved canopies of excellent workmanship, were built into the structure, but, beautiful as they are, some will feel the loss of wood as the more appropriate material for the furniture of the building, and of the oaken stalls of early design and historic interest. The seats of the prebendal stalls were preserved, but they were removed from their place in the upper row and were transferred to the lower row, and adapted by rude hands to places for which they were not originally constructed.

The loss is not only artistic but practical. The continuous line of the stalls has been broken. There are now only forty stalls instead of fifty. Ten prebends are without stalls, or, by a clumsy and inconvenient arrangement, the same stall is assigned to two prebends, and the prebendaries are left to dispute on the priority

built in the Quier of St. Andrew's Church for the use of the Masters wives shall be made at the charge of the Committee."

1619. "It is ordered and concluded (also by the Corporation) that the Clerks of St. Andrew shall have xiii s. xiii d. yearly paid unto them by the Receiver in respect of their attendance upon the Mayor and Masters in providing their seates cleane, and formes for the other xxiiii, and to provide the Magistrates seates in the saide churche." This is met by a minute of Chapter.

1624, 19 Nov. "No seats in the Cathedral to be altered without ye leave of the Dean and Chapter."

In 1633, 18 Sept. "New Seats erected over ye Stalls for ye Bishop's, dean's, and canons wifes."

1635, 1 April. "The seats in ye Nave of the Church removed by my Lord of Cantb^y^ order," Laud's measure to "quench prophesyings." The Puritan retort follows in 1640, "the doors of ye 2 galleries in the Quire to be nailed up," as if in preparation for closing the Quire, and setting up again preaching in the nave.

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ORDER OF STALLS IN CHOIR, 1846.

Comba prima	Huish et Brent	Milverton prima	Buckland Dinham	Ashill	Comba tertia	Comba quinta	Easton in Gordano	Comba nona	East Harptre	Tymberscombe	Taunton
Comba quarta	Comba undecima	Wanstrow	Wedmore secunda	Comba septima	Comba decima quarta	Cancellarius Warminster	Archidiacon. Wellen. Wedmore quarta				

Wivelscombe | Scanderford al's Shalford | Compton episcopi | Archidiacon. Taunton Yatton | Decanus Curry

Entrance to Choir

CHOIR.

Precentor | Subdecanus Sanct. Decimanus | Haselbere | Warminster al's Luxfield | Henstridge

Comba sexta	Ilton	White Lackington	Cudworth	Whitchurch	Comba secunda	Compton Dundon	Comba decima	Comba duodecima	Dultingcott al's Tinghurst	Barton St. David	Comba octava
Comba dec. 3tia	Comba dec. 5ta	Milverton secunda	Wedmore tertia	Litton	Wedmore quinta	Thesaurius Dinder	Archidiacon. Bathon. Holcombe				

Ordinatio Clericorum in Choro.

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of their claims, or to follow the famous precedent, which Mr. Freeman was never tired of quoting, of the two archbishops claiming the same stall, when Roger of York sat himself down in the lap of Richard of Canterbury, and was furiously ejected by the men of Canterbury.[a]

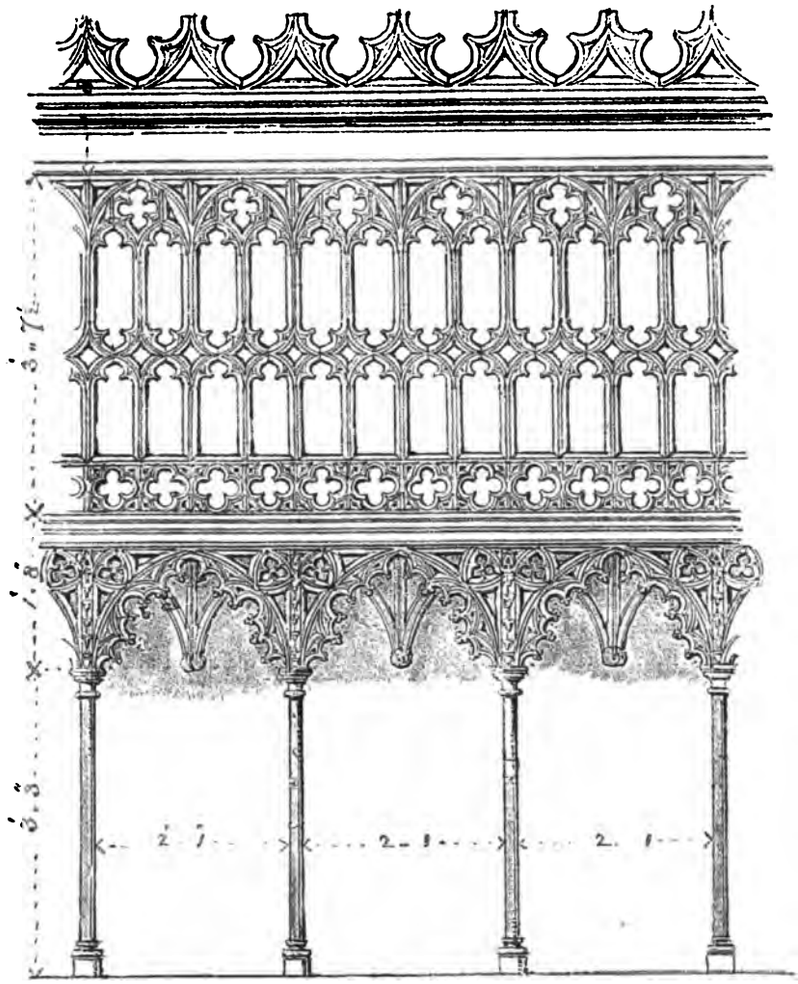

Fig. 2. Stall Canopies and Panelling of the upper galleries formerly in the choir of Wells cathedral church. From a drawing by Mr. F. Dollman made in 1848.

No attempt at re-arrangement of the stalls in the chapter-house was made in the changes of 1848. Brass plates, with the name of the several dignities and prebends, were put up on the stalls by Dean Plumptre in 1883, but the same order was followed by him which he found existing in the choir. As has been shown in this paper, another order ought to be followed in the arrangement of the stalls in chapter-house.

[a] Freeman, *Cathedral Church of Wells*, p. 189.

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If nothing can now be done to remedy the change of order in choir, at least the tablets on the stalls in chapter-house may be re-arranged, and the Psalms belonging to each prebend might also be recorded over each stall. This addition would add to the ornament and dignity and interest of each prebendal stall; it would be a help to the remembrance of the spiritual brotherhood existing among the members of the chapter, and it would be a constant mark of the continuity in the history of the chapter from the time of the earliest statutes and the days of bishop Robert to the present.

It is a matter of no small satisfaction that, while the beautiful stall-work of the choir has perished out of the cathedral church, so many of the seats have been preserved, containing excellent and varied carved work in the misericords on their under sides. Their obscurity during later centuries of disuse has preserved them from injury, and in some cases they are as fresh as when struck off by the hands of the carvers. Their present obscurity is a reason for more special description in our account of the prebendal stalls. Sixty-four seats remain, of which fifty belonged to the prebendal stalls in the upper row; all have been deposed from their original and proper position in the upper row, where seats of new woodwork have been inserted between the stonework of the stalls, and the misericords are now only to be found under the seats of the second and third rows; ten are all that remain of a larger number, probably thirty, which were ranged in the lower row, for younger vicars and boys on the foundation; four misericords belonging to stalls suppressed by the later innovations of 1848 are exhibited as specimens in the library of the Chapter.

If Wells has to deplore the loss of such canopied stall work as Winchester can boast, the misericords, which alone remain to us, rival and even exceed in richness and variety of design and depth of carving those on the seats of Winchester.

Twenty-two are carvings of the forms of men, women, angels; natural or grotesque.

Forty-two are carvings of birds and beasts; natural, conventional, monstrous, or grotesque.

The seats having been torn from their original position and forced in some cases by rude cutting into spaces in the lower tier of seats which do not belong to them, there is no authority for any fancy or theory as to the appropriateness of the carving to any particular stall of prebend. The clue is now lost of their original arrangement. An account of their present position would only be interesting as a guide to those who wished to examine them on the spot.

They were taken by the photographer in the following order, and are so numbered:

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MISERICORDS IN THE CATHEDRAL CHURCH OF WELLS.

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XVI.—*The Mausoleum at Halicarnassus. The probable arrangement and signification of its principal Sculptures.* *By* EDMUND OLDFIELD, *Esq., M.A., F.S.A.*

I. Read 26th November, 1896.

IN the paper on the Mausoleum which I read before the Society on 14th June, 1893, and which has since been published in *Archaeologia*, I stated my intention to investigate two distinct questions relating to that celebrated building:

I. What appeared from the best literary and monumental evidence to have been its architectural form?

II. What was the most probable arrangement of its principal sculptures?

The first of these questions I have sufficiently dealt with in the paper referred to, subject to one correction, which I ask leave now to submit. Since the appearance of my scheme in *Archaeologia*, I have been led to adopt a slight modification of the architectural arrangement there suggested for the interior of the Pteron.[a] In that arrangement the central area was supposed to be surrounded by eight massive piers, four of them square and four oblong, intended to support the principal weight of the pyramidal roof. In proposing such an arrangement I was always conscious that the view through the Pteron would be partially obstructed, and the light within the inner area diminished, by piers of this bulk, whilst the idea of a building "hanging in empty air" would be less fully and satisfactorily realised than I could have wished. Nevertheless, when I considered the exceptional weight of the superstructure, and the novelty of the scheme I was proposing for its support, it seemed to me more prudent to sacrifice both some architectural attractiveness and some confirmation of my theory from the more complete illustration of Martial's words, than to run the risk, as a mere amateur, of producing a design which professional critics might pronounce unworkable or unsafe. Since the publication of my paper, however, I have received from high

[a] *Archaeologia*, liv. pl. xxii.

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architectural authorities such assurances on the score of structural stability that I have now modified my design by substituting a scheme I should have preferred from the first, had I only felt satisfied as to its practicability. In this scheme there are only four square piers, one at each angle of the central area, whilst at each of its ends and sides is a double row of pilasters connected by intermediate stays, as shown in the accompanying plan (fig. 1). With such an arrangement anyone looking from outside would have seen on each face of the Pteron only two intercolumns blocked behind by solid piers, whilst all the others would have offered vistas of columns and pilasters extending uninterruptedly to the sky beyond.[a] With this explanation, which properly relates only to the first or

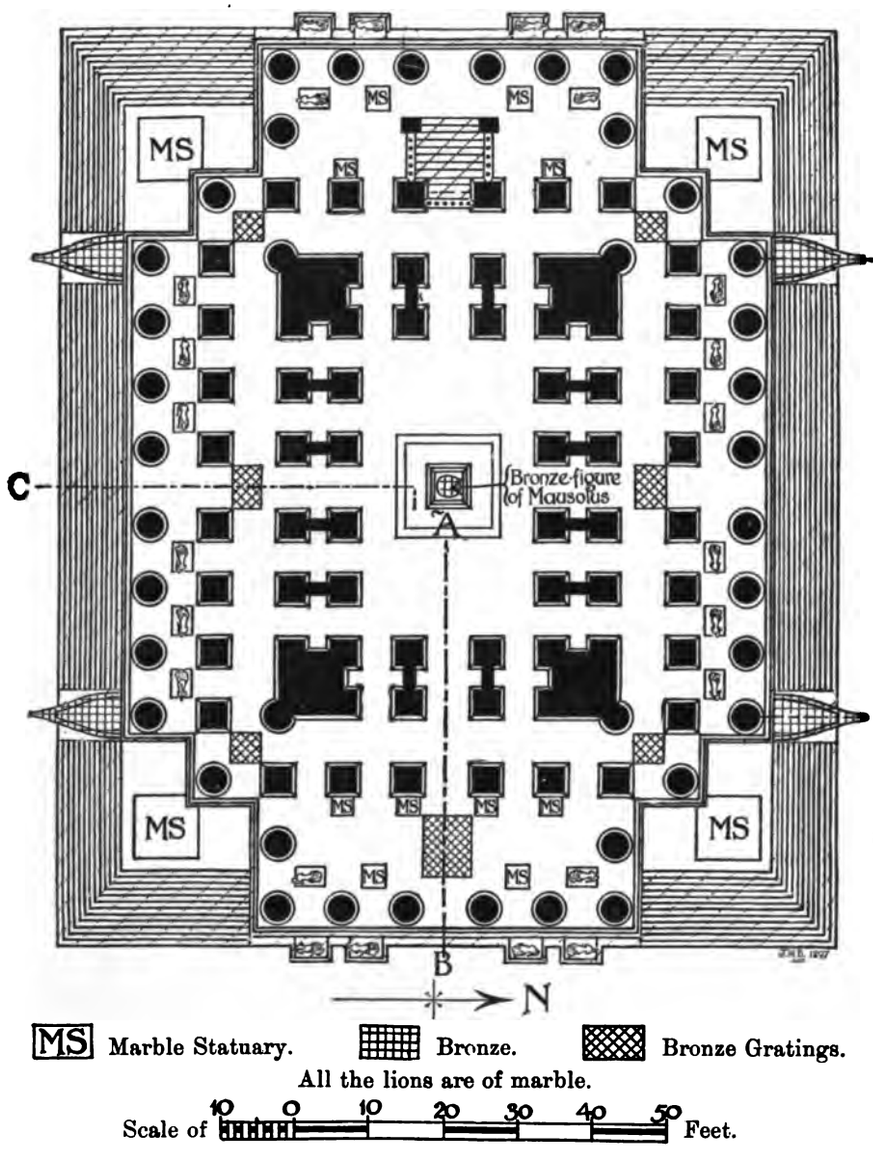

Fig. 1. The Mausoleum at Halicarnassus. Plan of the Pteron.

[a] This modification of my original scheme I made known in the *Builder* of 7 March, 1896, p. 214.

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architectural question in my investigation, I now proceed to examine the second or sculptural question as a sequel to the other.

Nearly forty years ago it fell to my lot, as an Assistant in the then undivided Department of Antiquities in the British Museum, to superintend the unpacking, repairing, and provisional arrangement of the marbles which were being collected by the expedition under the direction of the late Sir Charles (then Mr. Vice-Consul) Newton from Greek sites on the coast of Asia Minor. It was then part of my duty to devise means, with the approval of Mr. Hawkins, the respected Keeper of the Department, for accommodating the relics of the great Halicarnassian monument, and exhibiting them in some temporary manner till suitable provision could be made by the Trustees for their final arrangement in the public galleries. It thus naturally occurred to me to consider what proportion, or what approach to any calculable proportion, the specimens of decorative sculpture and enriched architecture thus acquired might probably have borne to the entirety of similar work in the monument when perfect. This led me to observe a distinction between remains belonging to groups or series, whose original extent might be approximately estimated either from the description of Pliny or from indications of structural requirements in the building itself, and remains which were independent both of the architectural composition and of each other, and therefore incapable, in the present state of our knowledge, of any estimate as to number or bulk. To the former class it was obvious to refer the preserved portions of columns. Putting aside the few drums of shafts and fragments of bases, on which it would be practically impossible to found any calculation, we find three distinct capitals in the collection, one of them belonging to an angle column. Now, Pliny tells us that the Mausoleum, by which he here means, as shown in my former paper, the Pteron only, was surrounded by thirty-six columns. The proportion, therefore, of preserved to lost members of the series of columnar capitals is as one to twelve.

Secondly, I take the Amazon frieze, which, in common with others, I accept as the frieze of the principal Order. Of this there remain seventeen slabs, extending in all to 85 feet 9 inches in length. Pliny says that the entire circuit of the building, meaning, as before, of the Pteron, was 411, or, according to one MS., 440 feet. But this measurement would naturally have been taken round an accessible part, such as the base or stylobate of the Pteron, rather than round its frieze; and the circuit of the latter would therefore have amounted to a somewhat less figure, say, approximately, 400 feet. Thus the preserved portion would be slightly above one-fifth of the whole.

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The reason why a larger proportion of the frieze has survived than of the columnar capitals may be easily understood. The former, being composed of practically flat and very thick oblong slabs, was valuable to the Rhodian Knights for courses of wall-facing. Whatever slabs, therefore, they found among the Mausoleum ruins they transported to the castle which they had undertaken to repair; and in the surface of its walls these slabs remained unbroken till Sir Stratford Canning had them removed in 1846. But the capitals, being less adapted for insertion in walls, were probably in most cases broken up for building material, or burnt into lime, as we know from De la Tourette's account was done with the remains of the subterranean chamber described in my former paper.

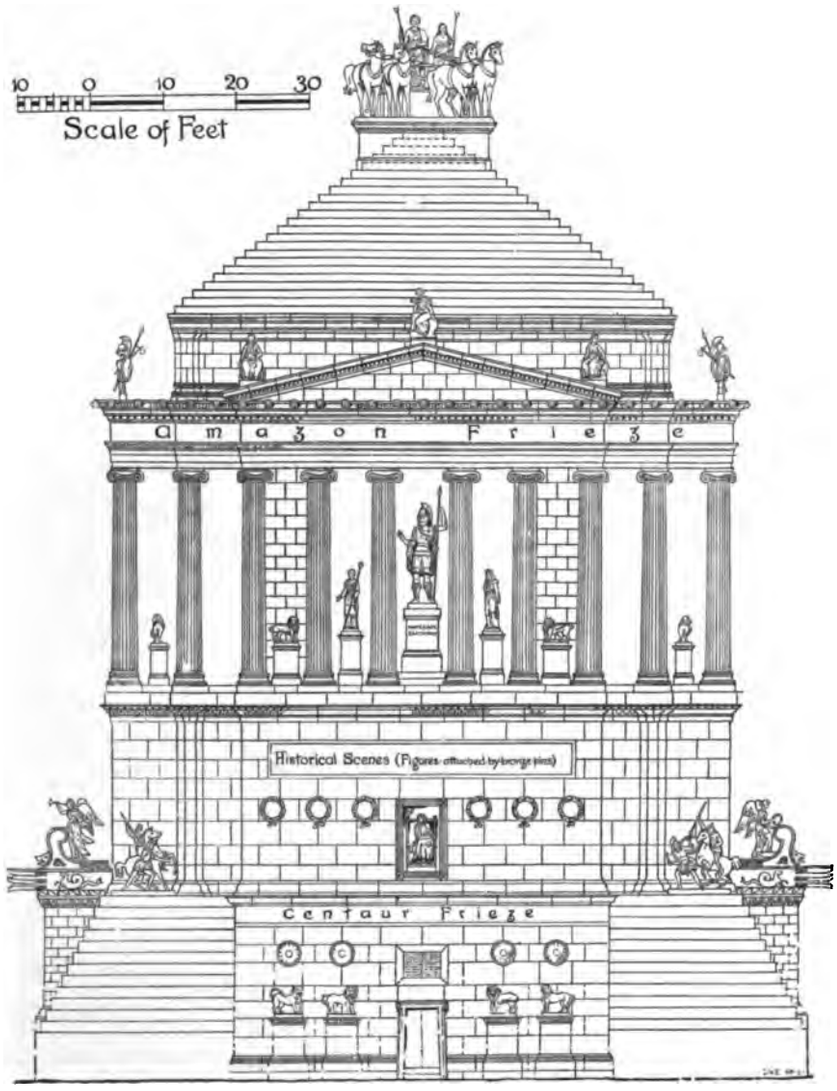

Fig. 2. The Mausoleum at Halicarnassus. Restoration of the East Front.

Next, we have some portions of a frieze representing a Centauromachia. It may perhaps at first be asked whether this could not have belonged to the same architectural course as the Amazonomachia, if the two compositions were sculptured in competition by different artists, and arranged on different sides of the

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building. Such a supposition, however, is sufficiently disposed of by the discrepancies both of dimension and form in the constituent slabs. The height of the Amazon frieze is 2 feet 11½ inches in all, the sunk face or die being 2 feet 5½ inches; whilst the height of the Centaur frieze is 1 inch less, both in the

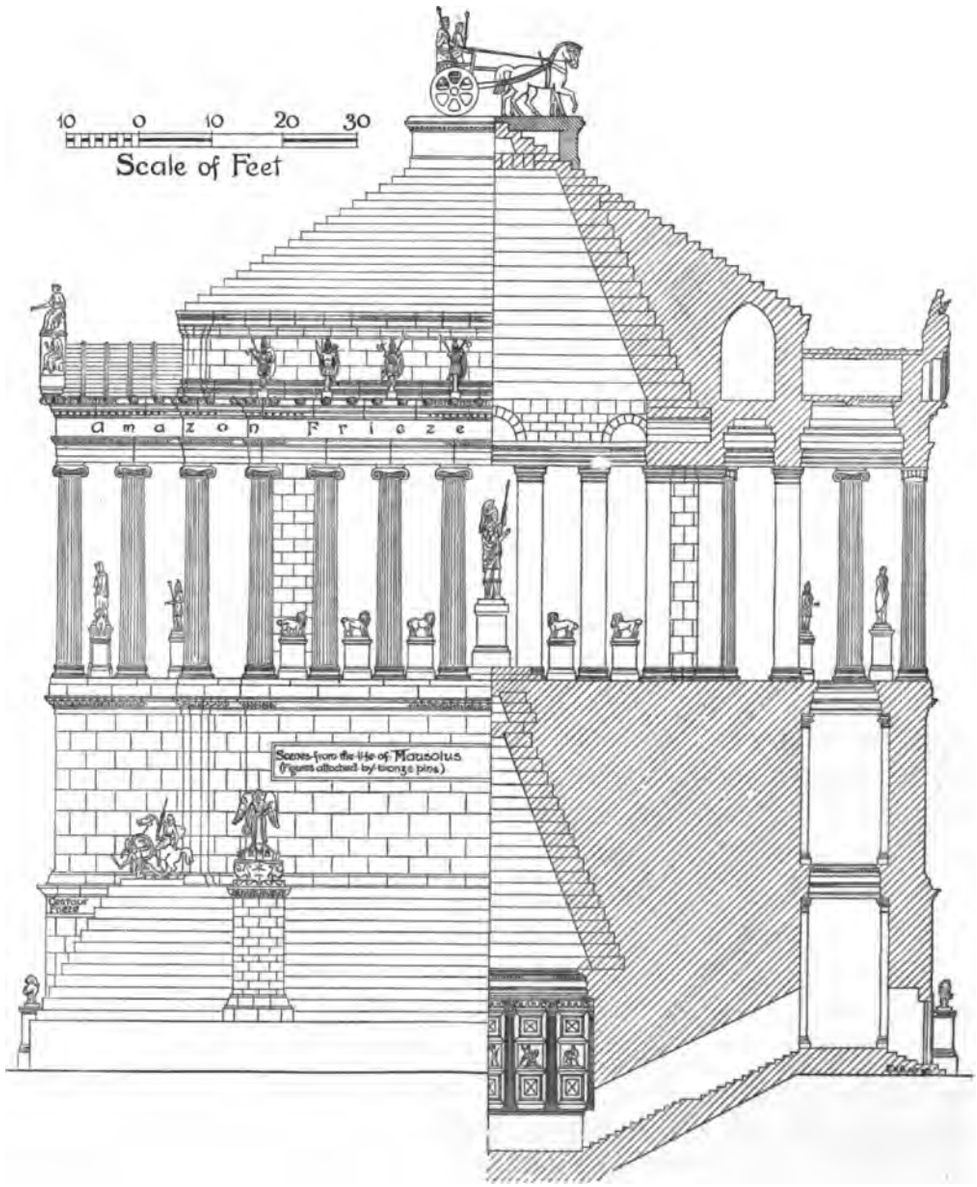

Fig. 3. The Mausoleum at Halicarnassus. Elevation of half the south side and half longitudinal section of the interior on the line A . . . B of the plan (fig 1).

aggregate and in the die. At the foot of the latter frieze also is a peculiar and distinctive square moulding, not to be found in the former frieze, nor indeed

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anywhere else in the Mausoleum. The inference, therefore, is that the two friezes must have been in positions unconnected with each other. This inference is confirmed by the difference in the present condition of the two series. The figures in the Centaur frieze are much more mutilated, and the surface also more eroded by water, than in the Amazon frieze; indicating that the former was originally in a position more exposed both to violence and atmospheric injury than the latter. The remains of the Centaur frieze comprise now only one slab and three fragments of other slabs, whose aggregate length, if all joined together, would be about 11 feet. In considering, however, the proportion this would probably have borne to the entire composition, it must be remembered that no portion of this frieze had the advantage, like so much of the Amazon frieze, of being transferred to the castle walls, but the whole was left to the same chances of violence and spoliation as the other sculptures found in the ruined building. Consequently, the proportion of the preserved to the lost parts would probably have been much smaller than in the Amazon frieze. Let us place it conjecturally at one-twelfth, and the entire frieze would then have extended to about 132 feet.

In my restoration of the building I have assigned to this frieze a position which, though only conjectural, is in conformity with the conditions here described, both as to its extent and its preservation. The part which I would call the sub-podium, that is, the wall supporting the podium under each portico, which forms an intercepting block in the middle of the graduated basement at the east and west ends, is shown in my design[a] (fig. 2) to be surmounted by a frieze. This I have made the place of the Centauromachia. The length of each sub-podium is 51 feet; its projection beyond the top of the gradines of the adjoining basement about 8 feet.[b] Supposing these friezes to be returned along the sides of the sub-podium till they are met by the highest gradines, each frieze would extend to $51+2\ (8)=67$ linear feet, a little more at the top, and a little less at the bottom; and the entirety of the two friezes would be about 134 feet. This figure would amply accord with the proportion above suggested between the preserved and the lost portions of the whole.

Equally also would the present condition of the frieze accord with such a position. At only about 20 feet from the ground it would have been more exposed to injury from below than the frieze of the Order, which was 60 or 70 feet higher up. At the same time, the shallow moulding which I have placed

[a] See fig. 2; cf. *Archaeologia*, liv. pl. xxv.

[b] The projecting portion is shown in fig. 3, and in vol. liv. pl. xxiii. (Half elevation of south side.)

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immediately over this lower frieze, and no bolder one seems to me proper in such a situation, would give but imperfect protection from injury of any kind from above, as compared with the more massive cornice which overhangs the principal or Amazon frieze. When, therefore, the upper part of the Mausoleum was overthrown by an earthquake, the projecting reliefs of the lower frieze would naturally have been struck by some of the falling stones. Even before this catastrophe the rain-water trickling down from the podium immediately above would find its way to the frieze, and this would account for the erosion of surface now observable in the slabs of the Centauromachia series.

Such, I believe, were the original positions of the only two friezes from the outer faces of the Mausoleum of which we have any remains. Why, however, it may be asked, should the Amazonomachia and Centauromachia have been selected as subjects for representation in these positions? The answer would not be difficult, even if we looked solely to artistic reasons. We know from Vitruvius and Pliny that the sculptural decoration of the building was undertaken by four artists *certatim*, or in competition with each other. Subjects would therefore naturally be chosen which would test to advantage the technical abilities of the competitors. Energetic action, and, so far as the reserve in the representation of the female form which had not yet quite left Greek art would allow, nude or semi-nude figures, would prove their skill in design and modelling. Moreover, the principal frieze being 80 or 90 feet above the ground, it was necessary, if the spectator was to judge properly either of the motives of the artists or the execution of their work, that the subject should be one with which he was well acquainted, and should be treated very distinctly, as by a somewhat open arrangement of the figures, with strongly defined attitudes and dramatic grouping, relieved by clear backgrounds. These conditions were easily fulfilled with such a theme as the Amazonomachia. At the same time, the fury of the legendary battle would give ample opportunity for exhibiting the muscular anatomy of the male and the more gracefully rounded outlines of the female form in immediate contrast with each other. The Centauromachia had similar recommendations. The subject was equally familiar to the Greek spectator, and the contrast of forms equally forcible, though shown not in the sexes, but in the species of the combatants.

But beyond and above these æsthetic motives was included, what Greek intelligence here, as elsewhere, knew well how to combine with them, a religious or historical motive. On this point Sir Charles Newton, notwithstanding his careful and judicious criticism on the mere artistic character of the friezes, seems not to have shewn his usual discernment. He confesses himself unable to see

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why the Amazonomachia should have been thought appropriate for representation on the Mausoleum,[a] or why, on this, as well as some other monuments, the Centauromachia should have been associated with it.[b] Yet, surely, the reasons are to be found in authors referred to in his own pages. Strabo informs us that Halicarnassus was believed to have been founded by emigrants from Trœzen,[c] led by Anthas or Anthes, son of Poseidon, and king of Trœzen. Pausanias confirms this myth by varying its form, attributing the foundation of the town to the descendants of Aetion, the son of Anthas.[d] Vitruvius, though he refers the settlement to Melas and Areuanias, heroes of a later date, yet brings the emigrants from Trœzen as well as from Argos.[e] So generally accepted was this traditional origin of the colony, that the Halicarnassians applied to themselves the eponym of Antheadæ. Now every Hellenic colony preserved a traditional respect for the legends of its ancestral home. Among the myths, therefore, which the Halicarnassians would naturally regard with greatest interest were those of Theseus, a native of Trœzen, and a grandson of its king, Pittheus. In the Amazon frieze there is a slab,[f] on which a warrior is seen fighting with a club and wearing a lion's skin. This warrior Sir Charles Newton thought to be Heracles, and thence inferred that the scene intended was that of a battle on the River Thermodon, where Heracles slew the Amazon Queen Hippolyte. I, however, believe that this warrior is Theseus, represented as in the Phigaleian frieze, with a lion's skin and club, like Heracles; so that the scene is really meant to be taken from the invasion of Attica by the Amazons under Hippolyte, who came to avenge thus the abduction by Theseus of her sister Antiope. In the single perfect slab from the Centaur frieze the figure of Theseus does not occur; but, doubtless, he was represented on some other slab, fighting among the Lapithæ at the nuptial feast of his friend Pirithöus. It is on account of the connection of Theseus with these two legendary incidents that the subjects of the Amazonomachia and Centauromachia are so constantly combined by artists of the Athenian School, who venerated Theseus as their hero king no less than the Trœzenians did as their fellow-countryman.

[a] Newton, *A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ* (London, 1862), ii. 251.

[b] *Ibid.* ii. 252.

[c] *Geographica*, lib. xiv. p. 56; lib. viii. p. 374.

[d] Pausanias, ii. 30, § 8.

[e] Vitruvius, *De Architectura*, lib. ii. 8. Herodotus also, vii. 99, though not noticing any of these myths, describes the Halicarnassians distinctly as Trœzenians.

[f] No. 3 in the official *Guide to the Mausoleum Room.*

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The Amazonomachia, however, had a further interest to the people of Caria independently of Trœzen. For the *labrys*, or two-headed battle-axe of Hippolyte, which was taken from her and given to Omphale, queen of Lydia, by Heracles, and was afterwards treasured as a sacred relic by the Lydian monarchs, was carried off from Candaules by the Carians under Arselis, and dedicated at Labranda in the temple of Zeus[a]; whence that deity is represented on the coins of Caria with the *labrys* in his hand.[b]

We may next consider the remains of a series belonging to a different class of representations, not mythological but realistic, the so-called "Chariot frieze." Among these remains there is no perfect slab; nor are there any sufficient means of estimating with any exactness what would have been the aggregate extent of all the slabs, if united continuously. Notwithstanding the violence from which they have at some time suffered, and which has reduced them to little more than a collection of fragmentary groups, it is to be noted that they do not, like the Centaur, and to some extent also the Amazon frieze, betray any marks of injury from weather. They differ also from those friezes in certain peculiarities of their original condition. They are composed of a finer marble; they are only about half as thick as the slabs of the Amazon frieze; "their back," as the official *Guide to the Mausoleum Room* informs us, "is always hammer-dressed, not wrought in alternate courses, like the frieze of the Order; and the joint between the slabs wants the final polish; which fact," continues the *Guide*, "is an additional proof that the frieze was never intended to be exposed to the weather." This concluding inference seems further confirmed by some remains of blue pigment which are, or at least lately were, traceable both on the ground of one of the reliefs, and on the under side of the ogee moulding which runs along the bottom of the frieze, and was decorated with small painted leaves. A certain distinction from the other friezes may also be observed in the artistic style of their sculptures. In the Chariot frieze the relief, whilst not uniformly flattened into something resembling a distinct plane in front of the plane of the background, a system nearly approached in the Panathenaic frieze of the Parthenon, is at the same time not regularly projected into detached or semi-detached forms, as in the Amazonomachia of this building. But an intermediate system is adopted of real *mezzo-relievo*, some of the figures being fully and naturally rounded, whilst others

[a] Plutarch, *Questiones Græcæ*, xlv.

[b] Gardner, *Types of Greek Coins*, pl. x. 22. *Cf.* Mionnet, *Description des Medailles Antiques Grecques et Romaines*, iii. 349 (*Halicarnasse*).

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are conventionally depressed; and this variation of projection, with its consequent variation in the strength of the lights and shadows, is delicately wrought out into an effect of picturesque gradation, which would hardly have been seen or appreciated except through near inspection, and would certainly have been quite thrown away in such a position as that of the Parthenon frieze, immediately under the ceiling of the peristyle, and lighted only by reflection from below. On these united grounds I should be disposed to assign this series to some place in the interior of the building, and not far removed from the eye. Not indeed a place in the central apartment, or *cella*, for De la Tourette, in describing the sculptural decorations of that room, mentions only *histoires taillées, et toutes battailles à demy relief*. In my arrangement of the basement, however, there is a supposed entrance-hall, about 42 feet long by 14 feet wide,[a] lighted from above by grated openings in the floor of the eastern portico; which openings could easily be enlarged, if necessary, beyond what is represented in my plan of the Pteron.[b] The walls of this hall I would venture to suggest, if my scheme for restoration of the building be accepted, as a site for the sculptures in question; though of course I only offer this as a conjectural allocation, for there is no evidence I know of to determine either the construction or the decoration of any interior part of the basement beyond that which was explored by the Rhodian Knights in 1522.

The subject of the Chariot frieze was doubtless chosen in commemoration of the honours, or part of the honours, paid by Artemisia to her departed husband, which very likely also included, like the games at the obsequies of Patroclus, other agonistic exhibitions besides these races. It is to be observed that the chariots all appear driving from left to right, which is also the direction uniformly represented in vase-paintings of the same subject. The reason of this I take to be that in the hippodrome they were only seen in this way. For the starting-place there being on the right side of the hippodrome's base, and the chariots turning to the left when they reached the *meta*, they had, both in their outgoing and their returning course, the *spina* always on their left, and the spectators on their right; so that they were only visible from the latter side, moving, that is, from left to right, as here represented.[c] The drivers appear at first sight to be

[a] See fig. 3; cf. *Archaeologia*, liv. pl. xxi. (plan), and pl. xxiii. (section).

[b] *Archaeologia*, liv. pl. xxii.; cf. *supra*, fig. 1.

[c] See Visconti's explanation of the hippodrome at Olympia, founded on the description of Pausanias in lib. vi. c. 20, *Museo Pio Clem.* v. 58-267.

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women, but are in reality meant for young men in talaric *chitons* or tunics.[a] A similar attire may be seen in the youthful charioteers in the Parthenon frieze, and likewise in the drivers represented in the paintings of chariot-races just now referred to.[b]

The only other sculptured reliefs in the collection are the few remains of figures on four sunk panels, each, as conjecturally restored in the Museum, about 28 inches square. Though all much broken, intentionally or accidentally, their surfaces show no deterioration from exposure to the air; and it was therefore reasonably inferred by Sir Charles Newton that they belonged originally to some interior locality. On all of them are fragments of male or female figures, engaged apparently in contests of different kinds. One scene seems to represent a fallen Amazon, with a figure of uncertain class beside her; another shows the lower part of a group composed like that of Theseus struggling either with the Minotaur or with Sciron, as seen on many painted vases. They are all well fitted, both in size and subject, for decorating the subterranean chamber discovered by the knights, as related by De la Tourette. In that chamber the *entredeux des colonnes*, or wall spaces between the engaged semi-columns which adorned its four sides, are said to have been faced with sculptured groups enclosed within mouldings of polychrome marbles, and all representing, as the knight tells us in the words lately quoted, scenes of battle, which he and his comrades deliberately broke in pieces for the sake of their material. To this position, therefore, I have assigned the few undestroyed fragments which their vandalism has left us, arranging them as shown in the two sectional views of my restoration.[c] Of course, like all the other

[a] Sir Charles Newton himself described them at first, unadvisedly, as women. *Travels and Discoveries in the Levant* (London, 1865), ii. 132-3.

[b] In Gerhard's *Auserlesene Griechische Vasenbilder*, theil II. taf. cvii., a young man is shown as charioteer, who, besides wearing a similar tunic, has a long plait of hair, like a woman's, hanging down his back.

[c] See above, fig. 3; cf. *Archaeologia*, liv. pl. xxiii. xxiv. (sectional views). Mr. Murray has suggested, in a lecture before the Glasgow Archaeological Society in 1894, and since brought to my notice, that these panels may perhaps have been fitted into some of the coffers in the ceiling of the peristyle. Such an arrangement, however, seems to me hardly likely to have satisfied the sculptors of the Mausoleum. Small groups of figures, in a series comprehending various unconnected subjects, require a near and clear view to be even intelligibly made out; and their workmanship, if, like these, highly finished, needs ample facility for inspection. To place them in ceiling recesses which have no direct light, which are perpendicularly over the spectator's head, and at least 30 feet above it, would be virtually sacrificing works evidently intended for the fullest examination. I prefer, therefore, the different destination here assigned for them.

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decorations referred to by De la Tourette, they could only have been inspected by the light of lamps; but this was the case everywhere with all sculptures and paintings found in the inner chambers of ancient sepulchres.

Turning now from the friezes and other reliefs to the detached statuary, the principal known group is that of the quadriga. There is here no question of position, Pliny having informed us that the quadriga stood on the summit of the monument. The word itself involves, *ex vi termini*, four horses and a chariot; but who, or how many persons, occupied the chariot, neither the word itself nor any ancient writer shows. Fortunately this, the most important sculptural decoration of the whole building, happens to have survived in the fullest preservation. The earthquake which overthrew the Mausoleum seems to have split the quadriga longitudinally, or nearly so. A small portion of it dropped off on the south side, but the principal part was precipitated to the north, and its elevation giving it a greater swing, it was carried, apparently in almost one body, beyond the wall of the *peribolus*. Its enormous weight, falling from so great a height, would naturally have driven it some way into the unpaved ground, whence, in the then abandoned and depopulated state of Budrum, no one would or could have extricated it. Soon, I imagine, it would get covered with earth, or overgrown with vegetation, like the whole basement of the Mausoleum itself, which was lost to sight and knowledge before 1522. In this happy concealment, protected alike from the air and from man, it slept undisturbed till unearthed by Sir Charles Newton, and he was thus enabled not merely to recover some important portions of a chariot-wheel, and remains of horses exceeding in all a quarter part of the whole four, with attached bronze harness which would doubtless have been plundered if exposed earlier, but, by a singular good fortune, found also nearly the whole of two semi-colossal statues of singularly fine workmanship, and, notwithstanding numerous fractures, in excellent surface preservation. Mixed up with them were found many marble steps, evidently belonging to the pyramid over the apex of which the quadriga was placed, and, amongst or very near them, various parts of smaller figures unconnected with the quadriga, but evidently hurled by the same centrifugal force from some lower positions on the north side of the Pteron. All the semi-colossal remains heaped together on this spot, whether of chariot, horses, woman, or man, Sir Charles Newton at once concluded to have belonged to the quadriga. The male figure, the head of which presents one of the noblest specimens of ideally treated portraiture that has come down to us from ancient times, he assumed to be that of Mausolus; and the attribution has, I believe, been unanimously accepted both by English and foreign critics.

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The female figure, however, which has unfortunately lost nearly all the face, retaining only the hair and head-covering, has been the subject of some controversy.

It is important for our purpose to determine at once the personage represented by this latter figure, as its position in the chariot, whether to the right or left of its companion, may be materially affected by the decision. Sir Charles Newton considered it to be a goddess, driving the car of Mausolus, and therefore standing on his right hand.[a] This interpretation, however, does not seem to me compatible with the religious ideas of the Greeks in the middle of the fourth century. The placing of any mere mortal in the same chariot with a deity, who acts merely as a charioteer, while he appears as παραβάτης, and this without suggesting any exceptional circumstance, historical or mythical, to explain the position, would be equivalent to formally deifying him. This, done without any recognised religious authority, would have shocked public sentiment as an act of presumption, if not impiety. Deification was not, at the era of Mausolus, awarded to the dead at the pleasure either of an arbitrary ruler or an obsequious artist. It is true that, about half a century earlier, during the widespread ascendancy acquired by Lysander after the battle of Ægos-Potami, some time-serving states sought to propitiate his favour by raising altars in his honour, and decreeing sacrifices and pæans to be offered to him as to a god.[b] But this impious adulation, which was without precedent in Greece, and made Lysander the object of general odium, ended at least with his life. It cannot, therefore, be considered an authority for the practice of posthumous deification in the fourth century. Even a generation later than that of Mausolus, Alexander, though at the height of his power, did not venture to pay honours implying divinity to the memory of Hephæstion till he had first obtained from Egypt, in an oracle of Zeus Ammon, an authoritative direction so to do.[c] Sir Charles Newton justifies his introduction and employment of a goddess by two illustrations, one drawn from history, the other from legendary art. The first is from the story of Pisistratus, who is related to have driven into Athens in a car with, apparently, Athene at his side, though in reality only a woman in disguise. The second is the representation on painted vases of Heracles conducted in a quadriga by Athene. To these he might have added a third example drawn from literature, the chariot of Diomedes in the *Iliad*

[a] *A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ*, ii. 249.

[b] Related by Plutarch, *Vita Lysandri*, c. xviii., on the authority of the historiographer Duris, who said that Lysander was the first Greek who ever received such a tribute.

[c] *Diodorus Siculus*, lib. xvii. c. 115.

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having been driven by Pallas in the conflict with Ares.[a] None of these illustrations, however, seem to me conclusive, or even strictly applicable. The contrivance of Pisistratus, though it served its purpose at the time with an ignorant and superstitious populace, was afterwards denounced by Herodotus as a *πρῆγμα εὐηθέστατον*, a piece of charlatanry so gross as to throw serious doubt in the historian's mind on the alleged intellectual superiority of the Athenian race.[b] Certainly, therefore, it cannot now be accepted as a fair exemplification of Greek ideas in an enlightened age on the relation between the gods and men. The representation of Heracles driven by Athene I freely accept as an instance of apotheosis. But Heracles was the son of Zeus; he had accomplished in his lifetime a series of superhuman feats, and his deification after death was formally authorised by the Delphic oracle,[c] and everywhere admitted by the Greeks as part of their religious belief. Diomedes had personally no such claim. But the intervention of Pallas Athene as his charioteer was a special incident in the great national epic, which comprehended in its machinery both gods and men. That incident represented one deity as availing herself of an human agency for the purpose of venting her wrath upon another of her own rank. This did not involve the deification of the mortal selected as her temporary coadjutor; nor would any Greek of the historic age have inferred from such an incident a right to extend the privilege of being driven by a goddess to himself or any contemporary with a view to his personal glorification.

There is, indeed, one of the higher gods who might without irreverence or presumption have been grouped with a mortal lately dead upon a sepulchral monument. This is Hermes in his character of Psychopompus. Professor Ramsay discovered a tomb in the so-called Midas-Necropolis in Phrygia, upon which Hermes was sculptured in this character; and in the *Journal of Hellenic Studies*[d] he refers to a statement of Babrius, which further illustrates this form of obituary

[a] Ἡ δ'ἐς δίφρον ἔβαινε παραὶ Διομήδεα δῖον
* * * *
Λάζετο δὲ μάστιγα καὶ ἡνία Παλλὰς Ἀθήνη.
Homer, *Iliad*, lib. v., v. 840.

[b] *Clio* (I.), 60.

[c] The courageous speech in which Callisthenes opposed the deification of the living Alexander, as recorded by Arrian, contains the following reference to Heracles: Οὐδὲ αὐτῷ τῷ Ἡρακλεῖ ζῶντι ἐτὶ θεῖαι τιμαὶ παρ' Ἑλλήνων ἐγένοντο, ἀλλ' οὐδὲ τελευτήσαντι πρόσθεν ἢ πρὸς τοῦ ἐν Δελφοῖς ἐπιθεσπισθῆναι ὡς θεὸν τιμᾶν Ἡρακλέα. *Anabasis*, lib. IV. ii. 7. The whole speech explains very clearly the ideas of the Greeks on the religious question.

[d] Vol. iii. No. 1.

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art.[a] It is in this sense, I have no doubt, that the figure of Hermes is introduced on some of the vase-paintings of the apotheosis of Heracles referred to by Sir Charles Newton. But these representations, which are founded on the special *cultus* of a particular deity, are no authority for the introduction of any other deity upon monuments of the dead for the mere purpose of posthumous flattery.

Among ideal personages of lower rank than the Olympic cycle the only one I can think of as appropriate for the office of charioteer would be Nike, the personification of Victory. Pausanias relates that Cratisthenes was represented in a sculptural group by Pythagoras, of Rhegium, as accompanied in a car by Victory;[b] and quadrigas are driven by Victories on the coins of Hiero II., of Syracuse, and on those of Philistis, though these figures are not accompanied by any παραβάτης. But the statue in question is clearly not a Victory, being veiled as a matron, and having no marks of wings on her shoulders; for I need hardly say, that a figure of Victory without wings is unknown in the mature age of Art.[c]

On these grounds I conclude that the female figure in the quadriga does not represent an ideal, but an actual human person. How much, however, is that conclusion strengthened when the spectator compares that figure, as now seen in the Museum, with its male companion! The height of the former is given in the official *Guide* as 8 feet 8 inches, whilst that of Mausolus is 9 feet 10 inches. Now, in every representation I have seen in ancient art, a tutelary deity, even though female, is made at least equal in stature to the mortal whom she protects. But the female figure here does not even attain to the normal proportion of her sex as compared with the other. That proportion may be roughly stated as equivalent, on an average, to 5 feet 9 inches in the man, against 5 feet 4 inches in the

[a] *Fab.* 30.

[b] Pausanias, vi. 13, § 4, s. 7; 18, § 1.

[c] According to a scholist on Aristophanes (*Aves*, 574), wings were first given to Victories by Archermus of Chios, whom C. O. Müller places about the middle of the sixth century B.C. See *Ancient Art and its Remains* (English edition), 394. That they were at least so applied, if not invented, by that sculptor, is shown by the recent discovery in Delos of an archaic winged statue of the goddess, having an inscription on its pedestal, which is read as containing the name of Archermus. See Murray, *History of Greek Sculpture*, i. 5; ii. 187; and *Handbook of Greek Archæology*, 247-8. The wingless type, however, was not at once abandoned, for Calamis, who is believed to have lived 100 years later than Archermus, made a Victory without wings for the Mantineans to dedicate at Elis, which Pausanias (V. 26, § 5) says was an imitation of an early statue at Athens. Nevertheless, wings had become by the middle of the fifth century the characteristic attribute of Victory, as may be seen from the celebrated statue by Pæonius discovered at Olympia, on which the mark of the lost wings still remains on the shoulders. In the series of reliefs also from the Temple of the so-called *Nike Apteros* at Athens, every figure of Victory is represented as winged.

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woman. Thus 9 feet 10 inches in a male statue would, to be in due proportion, require 9 feet 1 inch in a female. The figure in question, however, is 5 inches below that height. Is it conceivable that, if a tutelary divinity had been intended, the sculptor would have made her of proportions markedly below those of an average woman? As the two statues now stand side by side in the Museum few persons, I think, could imagine that the little goddess on the right was guiding and guarding the mighty mortal on the left without some sense of the ridiculous.

Assuming then that the female statue is simply the *Eikon* of a woman, there can be no question whom it represents. All difficulty in the proportion between the two figures disappears, if we suppose that the portraiture corresponds strictly with the reality, that either Mausolus was considerably above, or Artemisia considerably below, the average height of his or her sex. The former alternative is suggested by the language of Lucian, and is doubtless the right one.[a] This realistic explanation accords also with the treatment of the female figure itself, which is modelled with a certain fullness and even incipient deterioration of form suited to the time of life the Queen would have reached when her husband died, instead of with the lightness and shapely roundness which would have marked the unimpaired symmetry of an ideal and ever-youthful personage.

The relative position of the two statues, as they stood in the quadriga, is a question of greater difficulty. Sir Charles Newton, with his interpretation of the female figure, placed her, of course, in the post of charioteer, and the present authorities of the Museum, whatever their opinion may be as to the personage intended, have not thought it right to remove the statue from the position he had assigned to it. The question depends partly on what I may call abstract or theoretical considerations, partly on others connected with actual indications in the marbles themselves.

Under the first head I would note, *imprimis*, that the motive of the person who designed the quadriga should be interpreted somewhat differently from that which inspired the Carian queen in erecting the Mausoleum. The object of Artemisia was simply to do honour to her husband's memory, and if she had herself sketched out the chariot group, she might possibly have conceived the idea of driving him in imagination with her own hands to the heavens. But Artemisia never knew anything of the chariot group. She died whilst the original architectural scheme was in progress, and in accordance with that scheme the pyramidal roof, terminating in a *metæ cacumen*, was duly completed after she had been laid in the

[a] Καλὸς ἦν καὶ μέγας. v. *Dialogi Mortuorum*, xxiv. (*Diogenis et Mausoli.*)

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grave. Later on, we know not exactly how soon, came the alteration made by Pythis.[a] Whenever that took place, Idrieus, or possibly even his widow Ada, had succeeded to the Carian throne, and Mausolus and Artemisia were both alike enshrined in history. It is not improbable, therefore, that at that later date a leading motive for modifying the already finished monument would have been a wish to extend to the illustrious woman, to whose munificence the whole structure was due, a share in the honours which she had designed for her consort alone. Thus, under a succeeding member of the family, the quadriga would be added as an historical memorial of the two departed rulers, jointly and equally.[b] To those who raised that memorial they had been known as husband and wife; and as such they had to be represented in sculpture. Their mutual relationship would be naturally expressed by the position of the two figures. Now it will hardly be disputed that, despite certain peculiar androgynous eccentricities in recent times, it has hitherto been customary in all ages and countries for the male, not the female, partner to take openly the lead in all public appearances, to preside, not to be presided over, in every outward presentment of conjugal life. Greek sentiment, at all events, did not favour an inversion of this natural relation of the sexes. Wherever, in Greek works of art, a married pair, at least of human, not divine or mythical persons, is represented driving in a chariot, the husband holds the reins, and, if there is one, the whip. There is, for example, a class of painted vases, commonly known as "Marriage Vases," on which a bridegroom and bride are seen together in a quadriga. In these paintings, which are to be understood as representations of common life among the Greeks, the bridegroom habitually appears as charioteer, the bride standing by his left side.[c] If ever an exception occurs to this arrangement, it will be found, I think, to arise from some special mythical or historical allusion, perhaps unknown to us, which takes the subject

[a] The explanation of this alteration, and the arguments by which it is proved, are fully set out in my former paper, in *Archaeologia*, liv. 294-298.

[b] Mr. J. J. Stevenson, in a paper read before this Society on 7th May, 1896, and afterwards published in the *Builder* (29th August, 1896), in endeavouring to disprove my contention that the work of Pythis was really a modification of the original apex of the pyramid, resorts to the somewhat singular argument that after the death of Artemisia there would be no one to pay for so expensive a work as I suggest; as if Idrieus and Ada, inheriting the throne and the wealth of Halicarnassus, would have been unable to defray the cost of such a memorial of their brother and sister!

[c] For examples of this subject v. Gerhard's *Auserlesene Griechische Vasenbilder* (*Hochzeitwagen*) iv. pls. cccx.-cccxv.

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out of the category of common life, and transfers it to some other which has no relation to the present question.

Upon these so-called abstract or theoretical grounds I should not have hesitated to assign to the figure of Mausolus the dexter, and to that of Artemisia the sinister, place in the group. But it is necessary to take into account any indications in the marbles themselves which may throw light on the question of position, whether those indications are of an artistic or purely mechanical character.

First, then, as to indications of an artistic character, or connected with probable artistic motives. Here it must be pointed out, *in limine*, that the full front view of the two statues, as we now see them on entering the Mausoleum Room, is not that which would have presented itself to the ancient spectator, when the quadriga was *in situ*. If the four horses were again complete and arranged as formerly, a person standing in front on the floor of the room would have but an interrupted view of the two figures behind them. But if that person can be supposed to have been standing on the ground before the principal front of the Mausoleum itself, that is to say, 126 feet below the platform of the quadriga, and near enough to the building for examining its sculptural features, he would necessarily have seen nothing of the two figures at all. The only directions from which, within any moderate distance, they would have been visible without obstruction (except from behind, where they would not have been worth looking at), would be the two sides. Even from the sides one figure only at a time would have been fully seen, the other being more or less hidden behind it. Now a judicious sculptor, especially if he be also an architect, as Pythis is very commonly supposed to have been, would carefully calculate the available points of view, and adapt his composition to them. What he would here chiefly consider would be the pose of body and limb and the cast of drapery, which would best display one side of each figure, the right side of one and the left of the other, to a spectator standing 126 feet below. Observe, that as the quadriga is assumed to have faced the east, the driver would have stood on the south side, and the παραβάτης or companion on the north. Take then, first, the statue of Mausolus, and inquire on which side of the chariot would the best profile view of it be obtained from the ground below. Mausolus rests his weight on his right foot, and thereby brings his head nearly perpendicularly over it, making the line from the right shoulder to the right foot overhang slightly to the right or south side.[a] If, therefore, the statue stood on that side of the chariot, a person looking up from the south would have

[a] See the accompanying plate, taken from photographs from the original marbles.

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STATUES OF MAUSOLUS AND ARTEMISIA.

Photographed from the Originals in the British Museum.

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the best profile view of the whole figure, and especially of the head, which was possible from below. But if it stood on the left or north side, a person looking up from that side would see the figure slanting away from him, and the head at least partially hidden by the somewhat upraised left shoulder. With the statue of Artemisia these conditions were really reversed, though, as that statue now stands in the Museum, their effect is less clearly seen than the effect of the converse in the statue of Mausolus. She rests on her left foot, and naturally therefore her body, if rightly poised, as it doubtless formerly was, would lean gently over towards the left or north side.[a] This, therefore, is the side from which the best view of her whole figure would have been obtained from below.

But this is not all, in the artistic point of view. There is another distinction between the two figures. Mausolus, by resting on the right leg, keeps that leg comparatively back, whilst the left leg, having the knee bent, is at that part more advanced. Consequently, from the right side, and from that side only, would the whole of one leg, and part of the other, be seen in the profile view. Artemisia, on the other hand, has the left leg rather kept back, and the right knee slightly brought forward. The left side, therefore, is the only one from which both the legs would be, one wholly, and the other partially, visible in profile. Now, in all good composition, where a statue is practically to be seen only in one direction, the artist takes care that both the legs (and, indeed, both the arms also, though with them we have not here to deal) should be visible from that direction. This is desirable, not merely to satisfy the spectator's mind with a sense of completeness, but to obtain variety and contrast as well in the inclination of the limbs as in the folds of the drapery resulting therefrom. The only way, then, in which this end could have been obtained with each of the figures was to place Mausolus so as to be seen from the right or south, and Artemisia from the left or north, that is, to make him the charioteer, and his wife the *παραβάτης*.

Next, as to any indications of a more mechanical character which the marbles themselves may supply for determining the question of position. Certain of these

[a] In repairing and setting up in the Museum this marble, which is made up of broken parts with some necessary restorations, the head has been hardly brought sufficiently over the foot on which the weight of the body rests, so that a certain indecision of balance appears now in the whole figure. A better idea of the pose intended by the sculptor may be gathered from the plate in Sir Charles Newton's *Travels and Discoveries in the Levant*, ii. 116, pl. 10. That plate was photographed from a drawing by Mrs. Newton, who, with a true artistic instinct, represented the figure as it no doubt originally stood. Unfortunately, it has not been found practicable to obtain a photographic copy either of Mrs. Newton's drawing, or of the plate published in her husband's work, to illustrate the argument above stated.

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indications, it has been thought, point to a reversal of the conclusion resulting from the preceding arguments. Not that the attitude of the figures, so far as still traceable, can be alleged to imply that the female, rather than the male, was holding the reins. On the contrary, the remains of the arms, though in both cases too much mutilated for a quite decisive conclusion, yet do on the whole accord best with the supposition that the husband, not the wife, was, as usual, the driver. For the arms of the female figure are both broken off only a little below the elbow, and enough of each forearm remains to show approximately its original direction. It thence appears, as I think, pretty clearly, that the right forearm and hand of that figure must have been too much turned outwards and drooped, and the left forearm and hand held too high, for good form in driving, especially with the reins of four horses to hold. The figure of Mausolus, on the other hand, has lost the whole of the right, and all but the whole of the left arm from near the head of the humerus; so that there is nothing to disprove both arms having originally been disposed in a position quite suitable for driving. The true position for the arms of a charioteer is well shown by several examples in the procession of quadrigas in the Parthenon frieze. In all of these the forearms of the driver are placed horizontally in front of his body. The reins, indeed, are there held in both hands, the horses being in motion, and the charioteers having no other function to fulfil than driving. In the Mausoleum quadriga the horses are at rest, making, as it were, the last pause before beginning their march to the fields of Elysium. One hand, therefore, might suffice to hold the reins, whilst the other was more dramatically employed in some manner expressing the character and dignity of the driver. Regarding the whole group as I do, as a memorial, not merely of a conjugal pair, but of two successively reigning sovereigns, I would suggest, conjecturally, that each of them might have held in one hand a sceptre, which, in accordance with the system of decoration adopted in other parts, would probably have been of gilt bronze. Mausolus, on this supposition, would have had the sceptre in his right hand and the reins in his left. Artemisia, holding her sceptre in her left hand, would have extended her right slightly towards her husband's body, though whether actually touching or only approaching it, it is impossible, from the mutilated state of her right arm, to say.

There is, however, a certain mechanical fact which, in spite of the preceding arguments, has been asserted, originally, I believe, by Sir Charles Newton, to determine the position of the male figure to the sinister side. This is the occurrence of a sharp notch or excision of the drapery on the left side of that figure a little below the knee, which, it is alleged, could only be accounted for by

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supposing the rail of the chariot to have there impinged upon that drapery. In answer to this, indeed, it has been pointed out that, if the mantle which hangs from the shoulder of the figure had originally fallen on the rail, it would not have been cut off abruptly in a nearly horizontal line, but would have been gathered in a fold on the top of the substance which obstructed its descent. In reply to this objection, however, it has been suggested by Mr. Murray, in support of Sir Charles Newton's view, that probably the drapery, as we now see it, does not represent the sculptor's original design, but that, when the figure had been deposited in its intended place, it was discovered that there was not sufficient room for it in the car, and that then, as the easiest escape from the difficulty, a piece of the hanging mantle was summarily cut away, far enough to allow of the insertion of the rail; in evidence of which the rough surface of the scarred drapery now exposed is pointed to, which seems to have been rudely hacked with a pick or other heavy instrument, like a piece of hammer-dressed building stone, instead of being smoothly fitted for a joint, as it would have been if prepared beforehand in the workshop.

But there are, I think, serious objections to this ingenious interpretation of the mysterious notch. First of all, it obliges us to attribute to eminent Greek artists an almost incredible degree of carelessness or incompetency in not properly adapting the chariot and its occupants to each other, both in dimensions and arrangement, before raising them to their place. Secondly, it does not explain, any more than before, the hanging drapery ending in a horizontal line without any gathered fold, when its fall was arrested by the rail. Thirdly, it places the rail, which would have been a bronze *antyx*, at least a foot too low; for in Greek chariots this rail (see fig. 4), which was supported by upright stanchions above the solid side of the car, is never represented as below, or even on the level of, the occupant's knee, but generally as high as, or even above, the middle of his femur.[a] Or if, to meet this, it were suggested that the notch might mark the insertion not of the rail, but of the top of the solid side of the car, which in respect of height would be right enough, then the drapery above ought to show another notch for the insertion of the rail; whereas that drapery, which still retains its original surface, shows no excision whatever. Lastly, if, as the hypothesis suggests, the figure had been unexpectedly found closely jammed against the side of the car, it

[a] Examples of this may be seen on the slabs marked 40, 41, and 44, 45, in the Elgin Room; as well as on painted vases (from one of which the illustration in the text is taken) too numerous for citation.

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would not have been possible, whilst both marbles remained in place, to work any cutting implement between them; nor, if it had been possible, would it have been advantageous but the contrary, for the more the side of the car was brought in by the operation, the further would the upper part of the figure have projected beyond it, and the less room would it have found below for getting in its left foot.

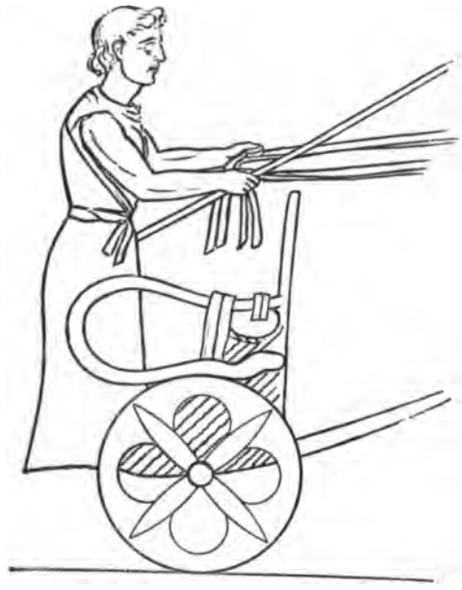

Fig. 4. Figure of a Greek charioteer.

For these reasons it seems to me that the suggested explanation of the present state of the marble by placing Mausolus on the left of his wife, however ingenious and at first sight plausible, is by no means free even from mechanical objection. Another solution may, I think, be found without discrediting the care or skill of the artist who designed this compound group, and without involving the removal of the male figure from its natural position on the right. Suppose, for instance, that in raising that figure to its proper place the lower part of the cascade of drapery depending from the left shoulder was somehow broken off, an accident which I venture to think not altogether improbable among a people less advanced in engineering than in the sculptural and other formative arts. On the occurrence of such a fracture a new piece of drapery would have been prepared, and joined on by such means and in such manner as was practicable without lowering the statue from its airy height. The drapery above the fracture would then be cut to a nearly straight edge, and the side of the figure would be hammered away so far as was necessary for securing the new piece. When afterwards the whole group was overthrown, and this statue shattered into fragments, the added piece would of course be broken away and lost; whilst the side to which it had been attached would retain no distinguishable marks of any fixing which had been used for securing it. This hypothesis would remove the only reason alleged for transferring the male figure to the left side, and would leave both statues in their natural positions, standing quite free and untouched by either side of the chariot. I am conscious, however, that these latter details cannot be satisfactorily judged of except in presence of the actual sculptures; and I can only hope that some of my readers may be sufficiently interested in

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these masterpieces of ancient art to examine them as they now stand in the Museum, and judge for themselves of the relative weight of the arguments on each side.

Meantime, I may point out that, in my architectural restoration of the Mausoleum, published before I could explain my views on the original composition of this group, I thought it best to represent the two figures as they are actually to be seen, as arranged by Sir Charles Newton;[a] but in the illustrations of the present paper I have placed them in what I believe to have been their true ancient position.[b] Saving only this one particular, the present disposition of the remains of the quadriga seems to me correct, and sufficiently effective to strike, if anything can, a spark of admiration for Greek genius even from the unimaginative mind of the ordinary British visitor.

II. Read December 3rd and 10th, 1896.

Since the observations on the relative position of the two principal human figures which I read at our last meeting were first committed to writing, I have become acquainted with a somewhat startling theory, unknown before not only to me but evidently also to Sir Charles Newton, which, if accepted, would not merely render inapplicable great part of the arguments here advanced, but would at the same time be fatal to the scheme of arrangement for the quadriga group adopted by the authorities of the Museum. In a paper contributed to the *Journal for Hellenic Studies*[c] Professor Percy Gardner has contended, with much ingenuity and variety of reasoning, that the car of the quadriga was from the first left empty by Pythis, purposely as a symbol of the death of Mausolus; and that, consequently, the two semi-colossal statues, the remains of which were discovered mixed up with those of the quadriga, must formerly, in common with the various smaller sculptures found in their immediate neighbourhood, have had their place in some lower part, which he does not undertake to specify, of the Mausoleum building.[d] This theory he supports chiefly by the following arguments:

[a] *Archaeologia*, liv. pl. xxiii.-iv.-v.

[b] See figs. 2 and 3.

[c] Vol. xiii. (1892-3).

[d] This theory seems to have been first suggested by Stark (*Philolog.* xxi. 464); and Mr. Gardner states that it was accepted by Wolters, and, with some reserve, by Overbeck.

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I. That Pliny does not mention any occupant of the chariot.

II. That important iconic statues, highly finished, would not have been placed by the Greeks in a position where they could not be properly seen.

III. That the weight of the two statues in question would have required the bottom of the car to be joined solidly to the flooring on which it stood, and thus have disfigured the group.

IV. That many Greek sepulchral reliefs show a horse without a rider, and that in our own military funerals a similar spectacle is seen.

V. That neither in costume, attitude, nor expression of wind-action on its drapery, does either of the figures show any resemblance to a Greek chariot driver, or any relation to the horses they are supposed to be driving.

VI. That the head of Mausolus does not show any such degradation of surface from weather as a marble exposed for centuries on the summit of a building would be likely to incur.

VII. That the two human figures are on a smaller scale than the horses, or than the chariot-wheel, if this was constructed in the usual proportion to the other parts of the quadriga.

VIII. That their artistic execution is so much superior to that of the horses, that they can hardly have been the work of the same sculptor.

Formidable as this array of arguments undoubtedly appears, I will nevertheless venture to state the reasons why they do not seem to me conclusive for their purpose. This must, however, be done somewhat briefly, not from any want of respect for the high authority by whom this theory is put forward, but simply from reluctance on my part to trespass too far on the indulgence which the Society has already extended to me so liberally. I will take the several arguments in their order.

I. "That Pliny does not mention any occupant of the chariot." This, as it seems to me, tells, so far as it tells at all, rather against than for Professor Gardner's theory. For, if it be thought surprising that Pliny should not mention the occupants of the chariot, if there were any, it would surely be much more surprising that he should not mention so strange a phenomenon as a chariot exalted to the skies without any occupant, if there were really none. The natural inference from his silence on this point is, that the quadriga was seen under the usual conditions, that is, having one or more persons in the car; and the only explanation needed for such silence is to be found in the extreme conciseness of his whole description.

II. "That important and highly finished statues should not, and therefore in

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Greek buildings would not, be placed where they could not be properly seen." There is undoubtedly weight in this objection, viewed merely as an abstract proposition. But how far, as a matter of fact, the Greeks held the objection insuperable in the case of lofty sepulchral monuments, we are unable to decide upon evidence, as we know of no other Greek monument similar to the Mausoleum in height. The Romans, at any rate, did not hold the objection insuperable, for they placed the statues of Trajan and Marcus Aurelius on columns of nearly as great elevation as this, and crowned the Mausoleum of Augustus with his effigy, and that of Hadrian with a numerous array of statues.

III. "That the weight of the two semi-colossal figures would have required the bottom of the car to be joined solidly to the flooring below, and so have disfigured the whole group." Certainly, they would have required a substantial, and perhaps somewhat unsightly, prop or props beneath the car, to support their weight. But as the sculptor did not shrink from the far worse unsightliness of a series of props under the bellies of the four horses, he is hardly likely to have felt any squeamishness in similarly treating the chariot. All these greater or less disfigurements were an inevitable result of the unhappy choice of marble, instead of bronze, for the material of this colossal group.

IV. "That many Greek sepulchral bas-reliefs show a horse without a rider, and that in our own military funerals a similar spectacle is exhibited." The answer to this is, that in such reliefs the unridden horse is not meant to indicate his deprivation of his master by death, for the master is very frequently found in the same scene taking leave of his family, and ready shortly to remount. The horse is simply waiting to convey the deceased to

> The undiscovered country, from whose bourne
> No traveller returns;

as is shown by the several tablets in which only the head of the steed is introduced, without any view of the empty seat, which, upon Mr. Gardner's hypothesis, would be required as a key to the symbol.[a]

In modern military funerals the charger without his late master furnishes a vivid contrast between life and death, and a pathetic image to surrounding friends. Nevertheless, when we propose to commemorate a departed warrior by

[a] It is unnecessary, for the present discussion, to take notice of the very different interpretation given by many archæologists to the horse on these tablets, treating it merely as an indication of knightly rank.

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a marble or bronze monument, we do not think it sufficient to put up a statue of his riderless horse.

V. "That neither in costume, attitude, nor expression of wind-action on the drapery, does either of the figures show any resemblance to a Greek charioteer, or any relation to the horses supposed to be driven." No, certainly; for, being intended as portraits of two great rulers, neither of them would wear an attire which was designed with a view to the hippodrome. Nor would either of them stand in the eager, forward-bending attitude, or show the wind-driven tunic, of the drivers in scenes of chariot-races; for both they and their horses were intended to be seen at rest, in the calm air of the empyrean.

VI. "That the head of Mausolus shows too little deterioration from weather to have been exposed for centuries on the top of a building." I reply, that whatever deterioration would have befallen that head would equally have befallen the head of the quadriga horse, which is of the same marble, and was without dispute exposed on that spot. Yet the one head is as little impaired by the weather as the other.

VII. "That the two human figures are on a smaller scale than the horses, or than the chariot-wheel, if the latter bear the usual proportion to the other parts of the quadriga." The proportion actually maintained in these sculptures involves necessarily a somewhat minute investigation.[a] But as it is undoubtedly an important element of the question, I will state summarily the results of all the measurements I know to have been taken.

First, as to the ratio between the two figures and the wheel. The height of Mausolus is 9 feet 10 inches. The diameter of the wheel, as restored, and I think rightly restored, by Mr. Pullan, is 7 feet 7 inches. This makes the wheel almost exactly seven-ninths of the height of the principal figure. Now Professor Gardner states, and the statement is quite in accordance with my own observations, that in most Greek representations of quadrigas the wheels do not exceed half the height of the charioteer. Nevertheless, it may here be pointed

[a] On this proportion, as a matter of fact, there seems a curious contrariety of opinion between the two learned critics, one of whose views we are now discussing, and both of whom, from their official connection, present or past, with the Museum, might be considered authoritative experts. Mr. Murray thinks that the two semi-colossal statues, when raised to their place, proved so much too large, or at least too broad, for the chariot, that the drapery of Mausolus had to be hacked away at the side, before it could be got into the car; whilst Professor Gardner thinks both statues were so much too small both for the chariot and the horses, that they could not originally have belonged to the quadriga group at all. *In medio tutissimus ibis*, I venture to say.

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out that we are dealing with the chariot of an Asiatic ruler, and one who, as his marriage with his sister shows, was not altogether akin to Hellenic civilisation. In the grand mosaic of Pompeii, which is believed to represent an event of only twenty years later date than the death of Mausolus, the wheel of the royal chariot is at least equal in diameter to the full stature of Darius himself, which implies that in Persian chariots, at any rate, the wheel was of much larger proportion than was usual in Greece.[a] I will not, however, lay too much stress on this example, for the Pompeian mosaic was no doubt the production of a school that had little affinity with that pure Greek art which may be expected to have regulated the work of Pythis. But contemporary Greek coins may fairly be referred to for authority; and there are abundance of these to show that the general rule, as stated by Professor Gardner, is not without many exceptions. Examples are given, both by Mionnet and in Mr. Gardner's own beautiful work on the Greek coinage, showing wheels of at least two-thirds, if not three-quarters, of the height of the charioteer, and therefore not in a much lower ratio than those of our chariot.[b] And the proportion of the wheel to the horses, which the sculptor probably regarded as much as or more than its proportion to the human figures, is in these coins fully as high as that of the Mausoleum wheel.

Secondly, as to the ratio between the two figures and the horses. Mr. Murray, in a lecture given at the Royal Academy in 1893, stated that he had measured the head of Mausolus and also that of the horse whose forehand is preserved, and found that they were respectively 15 inches and 41 inches in height. He had likewise measured the head of the Theseus and the heads of the horses in the eastern pediment of the Parthenon, and found them respectively 12 inches and 31½ inches. Supposing these dimensions to be perfectly trustworthy, though they must have been somewhat difficult to take to a minute fraction, it results, by means of a rule-of-three sum, that the head of Mausolus is just five-eighths of an inch less than it would have been if the same proportion had been observed between man and horse as in the Parthenon sculptures. Few, however, would, I think, consider this trifling variation as a serious obstacle to the connection between the two human figures and the horses of the quadriga. But further, Professor Gardner says that he measured the height of the Mausoleum horse to what he calls the "saddle," and found it 8 feet 6 inches. The height of

[a] Gargiulo, *Recueil des Monuments du Musée Royal Bourbon*, iii. pl. 51.

[b] Mionnet, *Medailles Grecques*, pl. lxvii. 1, 3, 5 (Syracuse); Gardner, *Types of Greek Coins*, pl. vi. 25-28 (Syracuse); ditto, 29 (Catana).

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Artemisia, however, as stated in the official *Guide*, is 8 feet 8 inches; 2 inches above the measure of the horse. Now a horse of 16 hands to the shoulder is exactly the height of an average well-grown woman, namely, 5 feet 4 inches; so that, if Artemisia was of that normal stature, this horse must have been intended for a little under 16 hands, a fraction indeed over $15\frac{1}{2}$. Surely this does not show any serious disproportion between the figures thus compared. It is true that horses are commonly represented in Greek works of art as much below 16, or even 15 hands. But this arises, not simply from the predominance of a smaller breed of animals in ancient times, but also, and perhaps chiefly, from a conventional license familiar to Professor Gardner and all classical archæologists, whereby the size of the horse, when represented in company with a man or woman, was regulated not so much by the average proportions of nature as by the well understood requirements of art, a principle which involved an adjustment of the scales of the figures partly to the available space, whether in architecture, coinage, or vase-painting, and partly also to a certain regard for the relative importance of man and beast. In the frieze of a building both these considerations generally pointed to the representation of the horse under the smallest type which could be admitted without destroying the sense of reality. But at the summit of a lofty monument horses in the proportion of 15 or 16 hands, such as we have good reason to believe existed both in Greece [a] and Asia Minor, might legitimately have been chosen by the sculptor if he thought them more conducive to grandeur of effect.

8. "That as works of Art, the two human figures are so much better designed and executed than the horses of the quadriga that they could hardly have proceeded from the hand of the same sculptor." This superiority I do not in itself care to dispute. But when Pliny speaks of *quadriga marmorea quam fecit Pythis*, I do not think it necessary to understand that Pythis, who, according to one hypothesis, was one of the original architects of the Mausoleum,[b] modelled or carved this great work with his own hands. My interpretation of the word would

[a] Such a horse is represented on a coin of Philip II. of Macedon, where the rider's foot barely reaches down to the line of his belly. See Gardner, *Types of Greek Coins*, pl. vii. 39; cf. also a coin of Tarentum, ditto, pl. xi. 4. As an illustration of the breed of Asia Minor I may refer to the Lycian Tomb, now in the British Museum, which has on its roof a bas-relief of Bellerophon in a quadriga pursuing the Chimæra, where the horses, judging from their proportion to the human figures, must have been fully 15 or 16 hands high.

[b] As to the identification of Pythis with Phyteus, see my former paper in *Archaeologia*, liv. 298-300.

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rather be, that Pythis, as the then ἀρχιτέκτων, or master artificer employed in the building, invented this group of statuary as an *epithema* to the crowning pyramid; that he probably sketched out its form, and planned the method of adjusting it to the existing apex, which he thereby truncated in appearance, though not in fact; and that he of course superintended the carrying out of his scheme in its chief details. But he would naturally entrust the actual execution of the sculptural work to such artists as he thought best for each part, and would thus probably assign the two iconic figures to a different hand from the one employed for the horses. For the former he might have engaged one, perhaps *the* one thought the most successful, of the three younger artists who decorated the sides of the building in competition; I do not include Scopas, for he, if still living, would probably have been too old for such an undertaking in the reign of Idrieus or of Ada.[a] For the horses we cannot conjecture whom he would employ. Thus any inequality of workmanship, if admitted, would create no real difficulty for us.

There is, however, one peculiarity in the two human figures which ought not to be passed over, as it may possibly be thought to tell against their allocation to the quadriga. The feet of both figures are as beautifully modelled and highly finished as any part of their bodies, although, when placed within the chariot, neither of them could possibly be seen from below. This, however, is only a repetition of the same thoroughness of workmanship which we find in the Theseus of the Parthenon, the back of which, though quite invisible when once placed in its pedimental recess, is as elaborately modelled and worked out as the front. Whatever explanation we may adopt in the case of the Theseus, it can hardly be doubted that, in the case of the Mausoleum, the monumental portraits of the two greatest rulers of Halicarnassus, intended to be fixed at an inaccessible height under the circumstances already explained, would have been publicly exhibited below, as objects of general interest, before being raised to their final resting place. Even if they were not so exhibited, no true artist, certainly none of the four who continued their enterprise after Artemisia's death purely as a *gloriæ ipsorum artisque monumentum*, would have scamped any part of his work merely because it could not in the future have been seen and criticised.

[a] The earliest work of which the date can be fixed on which Scopas was employed was the Temple of Athene at Tegea, rebuilt after the fire in B.C. 394, where he was both architect and sculptor. But this, being a commission of great importance, is hardly likely to have been given him, if he was then very young. The latest work which can with certainty be referred to him is that of the Mausoleum, begun between 353 and 351. Idrieus reigned from 351 to 344, Ada thenceforward to 340. For the date of Scopas, see Sillig, *Dictionary of Artists*, s.v.

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Having thus noticed all Professor Gardner's arguments separately, I may be permitted to add one general objection which, in my opinion, goes to the root of his whole theory. It is a theory founded, as I think, on a wrong understanding of the artistic motive of the sculptor, by interpreting his work in a realistic instead of an ideal sense. The quadriga, properly viewed, did not represent an earthly but a celestial vehicle. It was not meant for the carriage in which Mausolus and Artemisia used to drive about Halicarnassus, which was unhappily left vacant by their death. It did not, therefore, appeal to the spectators for compassion, like the riderless horse of the modern general following his master's remains to the grave. The Carians saw in it a higher meaning than this. They saw an image, not of their own bereavement, but of the exaltation of their two late rulers to the happiness and peace of Elysium. To such a design the figures of the departed were as indispensable as that of Heracles was in the quadriga which represented on painted vases his translation to the Olympic realms. With this understanding of the subject it need hardly be added that the two semi-colossal statues found mixed up with the remains of the horses and chariot, and alone of all the discovered sculptures suited in any way to the position, must necessarily, in my opinion, have belonged to the quadriga.

Before taking leave of the question, however, unusual as it is for either of two academic disputants to propose a compromise, I will take on myself to throw out the possibility of a *tertium quid*, which, whilst it would maintain what I think an absolutely essential condition, namely, the connection of the two figures with the quadriga, would at the same time meet what seem to me the only objections of Professor Gardner which may still be thought open to consideration; those, I mean, comprised under his last two heads. I will suggest an alternative, which is merely a conjecture, which is founded on no authority, and which pretends to no merit beyond that of reconciling alleged discrepancies. That alternative is this: that the two principal statues might indeed have been originally designed and executed, as Mr. Gardner supposes, for some important and easily inspected part of the building, probably the Pteron; but that when, at a later time, Pythis resolved to put up his quadriga, to the true significance of which the effigies of Mausolus and Artemisia were indispensable, he took these statues, probably the best available representations of the two dynasts, and transferred them to his celestial car. In so doing, he might easily have acquiesced in, if indeed he did not actually desire, two consequences incidentally involved in the scale of the

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translated figures: (1) that the horses would appear to be 15½ hands high; and (2) that the chariot-wheel would be rather of Persian than of Hellenic proportion.

Passing now to the other pieces of detached statuary in the Mausoleum collection, the most important is the equestrian group of heroic size, in which the trunks both of rider and horse, with portions of their limbs, are alone preserved. It is not within my present province to offer any purely æsthetic criticism on this singularly fine work; nor indeed, after Sir Charles Newton's admirable description of it, would anything remain for me to add. What alone we have now to consider is the probable position of the group in the original building. Unfortunately, there are no data for determining this question, not even so much as we had with the several friezes. The group was found within the quadrangular area of the basement rather towards its west side. But the whole of that area had been so disturbed and its contents broken up, even to the very foundations of the building, that no inference could safely be drawn from the particular site of any object discovered there. The boldness of design which distinguishes this piece suggests that it must have been intended for a conspicuous position; and the careful workmanship of the horse's belly implies that it was meant to be seen from below. Mr. Fergusson, induced probably by the *anaxyrides* of the rider, supposed it to represent an Amazon; but the thighs and legs are pretty certainly those of a male figure, though whether of an historical or mythical person there is no evidence to show. I concur in Sir Charles Newton's suggestion that the horseman was probably striking with a lance at an antagonist on foot, though I doubt if the latter was actually "prostrate," as the inclination of the rider's body is hardly sufficient to show that he was bending over an object on the ground. The pedestrian combatant would doubtless have served, if not quite to conceal, yet at least to distract the eye from, the unsightly prop which supported the horse's belly, and which, if the equestrian figure had stood alone (as represented in Mr. Pullan's architectural elevation) would have formed a conspicuous eyesore in its whole composition. All my predecessors in the restoration of the Mausoleum, even Professor Cockerell and Mr. Falkener, who wrote before the discovery of this group, as well as those who have written since, agree in placing a statue of a horseman, either alone or fighting with a foot soldier, at each angle of the building. As there never was any historical authority for such an arrangement, nothing but an instinctive sense of its artistic propriety could have produced this unanimity in adopting it. In the absence of any opposing evidence, therefore, I have

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thought it best to follow suit in my own design, treating this group as one of four, of which the other three have perished. I have placed one of them on each of the open platforms at the top of the lower pyramid, intended to emphasise its angles, and show the interdependence of the sculpture and architecture of the building. The figures are supposed by me to represent Asiatic horsemen in combat with Greek hoplites.

The next in importance is the statue of a male personage, fully draped, on a similar scale to the preceding, and equally or even more mutilated. It is seated on a cushioned throne, which seems to imply superior rank. Indeed, it has been suggested that it might have been intended for Zeus himself. But besides that the upper part of the body in statues of Zeus is generally nude,[a] it would be manifestly incompatible with those religious ideas of the Greeks on which I have laid stress in treating of the quadriga group, to make use of the ruler of Olympus as a mere artistic accessory to the glorification of a mortal, however great. I think it probable that we have here a ruined portrait of one of the Carian dynasts of the house of Mausolus. There is no trustworthy external evidence as to the position which this figure originally occupied. We only know that it was found, like the equestrian group, within the uprooted area of the basement. There is one peculiarity, however, in its workmanship which may furnish at least a probable clue to the character of its original position. The back of the figure is quite flat, and but feebly worked, as if it was never intended for general view; and this leads to the suggestion that it may have been designed to fill a niche. In accordance with this idea I have, in my architectural restoration, supposed niches to have been inserted in the podium on its east and west fronts; and in one of these niches the seated statue might have been placed. I may observe in passing that I have given these niches square, not arched heads, for I know of no example of an arch-headed niche in Greek architecture of the autonomous period, and the adoption of such a form in Herr Petersen's restoration gives, to my eye, a quasi-Roman character to his elevation of the front.

There are remains of several other statues in the collection, some on a similar scale to the seated figure, others of only life size, and others also smaller than life. But we have no evidence as to their original positions taken individually. I will therefore consider them and their arrangement collectively in a later paragraph.

There are, however, two semi-colossal female heads, and part of a third, numbered 44, 45, 46, in the official *Guide to the Mausoleum Room*, which are of

[a] It must be admitted, however, that the Zeus of Labranda is an exception to this rule.

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sufficient interest to claim separate notice. The first is fairly preserved; the second, having been embedded in a Turkish chimney, has its whole surface ruined by fire; the third is little more than a fragment. All, however, were apparently parts of statues; all are on the same scale; the two entire ones have the same formal and quasi-archaic treatment of the front hair, and all show, as far as can now be traced, the same artistic motive. Probably, therefore, they all belonged to one series of statues. But whom did those statues represent, and where were they originally placed? Neither of these questions do I pretend to answer with certainty. On the question of subject our first inquiry must be whether the heads represent real or ideal persons. For the former alternative it may be pointed out that their front hair is arranged exactly like that of Artemisia in the quadriga figure, that is, in three rows of formal curls, which seem at first sight imitated from the style of the sixth century B.C. But, on the other hand, the best preserved head, No. 44, on which alone any confident judgment can be founded, shows no individuality whatever in its features, which are rendered with a largeness and breadth characteristically ideal (fig. 5). A different, but hardly less weighty, objection to the supposition of portraiture arises from a somewhat singular coincidence. There is in the Museum a head, likewise broken from a statue, which was found by Mr. Pullan within the ruins of the Temple of Athene Polias at Priene, built in the time of Alexander, about fifteen years after the Mausoleum. This head, though rather smaller in scale, is in all other respects, in feature, in pseudo-archaic arrangement of the front hair, and in the cap which covers its top and back, almost a repetition of No. 44. Its attribution, therefore, if once determined, cannot fail to influence largely our interpretation of the three heads from the

Fig. 5. Marble Head from the Mausoleum at Halicarnassus.

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Mausoleum. Was then the Priene head intended as a portrait or an ideal creation? To me the mere site of its discovery seems virtually irreconcileable with the former alternative. For no fourth century sculptor, recollecting the fate of Phidias, would be likely to introduce into a temple of Athene a portrait of any contemporary, male or female, without state authority;[a] and that authority can hardly in the present instance be supposed to have been obtained, as it was never conceded except for some great real or supposed public service, such as no woman at that period, especially no unmarried woman, as this from her head-dress apparently was, is likely to have rendered. But further, if the Priene head had represented a real person, the corresponding Mausoleum head must, from its close similarity, have in all probability represented the same person. Yet how could we then explain the reappearance in an independent Ionian city of a lady who had already figured at Halicarnassus in connection with the Carian dynasty? Such an occurrence seems to me incredible. For these combined reasons I conclude that the Priene head is not a portrait, but ideal; and the similar Mausoleum head, together with its two companions, will naturally follow the determination thus arrived at. It is not necessary to infer that the same ideal personages were intended to be represented both at Halicarnassus and Priene. There are many classes of such personages which have no distinctive character of feature known to us, Muses, Victories, Hours, Graces, and the whole cycle of divinities associated with special sites of land or water. If therefore, as is not unlikely, the same artist, or that artist and a pupil,[b] were employed in making ideal statues both at Halicarnassus and some fifteen years after at Priene, he might very well adopt a similar model for all his heads at both places, though no doubt he would introduce with the body of each figure some accessory distinguishing its proper individuality.

Assuming then that these three semi-colossal heads are ideal, the architectural

[a] Pausanias gives instances of states out of servility conferring this honour on living warriors or statesmen whom it was expedient to propitiate. Thus, after the battle of Ægos-Potami, the Ephesians placed statues of Lysander and certain of his comrades in the Temple of Artemis; and the Samians not merely erected a statue of Lysander in the *temenos* of Zeus at Olympia, but with characteristic versatility dedicated figures of Alcibiades, and afterwards of Conon and Timotheus, in their own Temple of Hera. Pausanius, vi. c. iii. 15.

[b] The latter of these alternatives seems to me more probable; for there is a considerable difference between the two compared heads in style of execution, however similar their subjects. The Mausoleum head is n a broader and grander, but less elaborate and refined, manner than the other.

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scheme which I have proposed for the Mausoleum allows me to suggest an allocation of the statues to which they must have belonged, which will, I hope, not be thought improbable. An essential feature of that scheme is that what Pliny calls the "fronts" of the building were distinguished by porticoes crowned with pediments. Now, the apex and two ends of a Greek pediment were commonly accentuated by so-called acroterial statues. It can hardly be doubted that in a monument so highly adorned as the Mausoleum such decorations would not have been wanting; especially as one at least of the four eminent sculptors there employed is known to have executed statues for similar positions elsewhere. For in a Greek inscription found at Epidaurus Timotheus is named as the artist of the acroterial figures of a pediment for the local temple of Asclepius; and the discovery of three figures of Victories, evidently meant for *acroteria*, among the ruins of that temple, illustrates and confirms the inscription.[a] It is not, therefore, unreasonable to conjecture that these three ideal heads may have originally belonged to acroterial figures, and perhaps were the work of Timotheus. Their scale, being about equal to that of the two quadriga figures, fits them for an elevation not much inferior; an elevation, in this case, of from 90 to 100 feet above the spectator. If, as I suppose, there were porticoes both on the east and west fronts of the building, there must have been six statues for the *acroteria* of the two pediments; so that we must have in the Museum the heads, or portions of the heads, of just half the series.

In order, however, to justify more completely this allocation, six personages should be indicated, suitable for representation in such a position. This seems to me not impossible. Although ideal, yet, as parts of a great sepulchral monument, the figures should be in some sense historical. Now, next to the transfer of the seat of government from Mylassa to Halicarnassus, the most important achievement of internal policy we know of in the reign of Mausolus was his incorporation of the several Carian towns, originally occupied by Lelegian populations, in one united whole at his new metropolis. Of these towns there were at the time eight, but, as Strabo informs us on the authority of the historian Callisthenes, Syaggela and Myndus were excluded from the union by Mausolus, so that the number was reduced by him to six.[b] The most natural and appropriate recognition of this

[a] This inscription was mentioned by Mr. A. S. Murray in a lecture at the Royal Academy. *Builder*, 15 April, 1893.

[b] Τῶν ὀκτὼ πόλεων τὰς ἐξ Μαύσωλος εἰς μίαν τὴν Ἁλικαρνασσὸν συνήγαγεν, ὡς Καλλισθένης ἱστορεῖ. Συάγγελα δὲ καὶ Μύνδον διεφύλαξε. *Geographica*, xiii. c. l. 59. Strabo does not give the

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event to a Greek mind would be the introduction of the local deities of the six incorporated towns in the great monument of the centralising power. The sculptural type of such deities would be exactly what we see in these female heads. At a later period they, or some of them, would perhaps have borne turreted crowns. But in the fourth century they would have worn simply the usual headgear of Greek maidens, such as the σάκκος seen in No. 44, and apparently also in No. 46, or the uncovered hair, as I incline to consider it, of No. 45. Their features would have been treated broadly, after that poetic type of which we have such exquisite examples in the contemporary coinage of the autonomous towns of Greece and Asia Minor. The minute ornamentation, however, which enhances the beauty of many of those numismatic masterpieces, the fibres of the netted κεκρύφαλος, the interwoven ears of corn, the jewelry in ears or on neck, would have been quite thrown away on sculptures to be seen only at an elevation of nearly 100 feet. The artist, therefore, as I read his motive, preferred to take a conventional licence, encircling each head with three rows of stiff symmetrical curls, which would have from below a broad effect of decorative arrangement in the hair, with a certain semblance of archaistic severity, which would not be inappropriate. The same motive, the subordination of the refinements of realistic minutiæ to broad architectonic conditions, may, I think, explain the similar treatment of hair adopted in the portrait statue of Artemisia; and I would venture also to suggest that, if such a treatment was found successful at Halicarnassus, it would not be unnatural that the artist, whether Timotheus or one of his followers, should afterwards repeat it at Priene, though probably neither the *acroteria* nor the tympana of the Temple of Athene were so elevated as those of the Mausoleum. Whether the six acroterial figures were represented sitting or standing, I know of no evidence to show. I have therefore felt free, in my restoration, to adopt the seated form, as better suited, in my opinion, for the suggested position.

Before leaving the three heads, however, it is right to refer to a doubt which might possibly be raised, whether the burnt head (No. 45) is equally suited with the other two for the interpretation here adopted. This head is described in the

names of the towns included by Mausolus. According to Pliny, v. 29, Alexander the Great annexed to Halicarnassus the following towns: Theangela, Sibda, Medmassa, Euranium, Pedasum, and Pelmessus. But Cramer suggests, and no doubt rightly, that Pliny has here confused Alexander with Mausolus, and that the towns he names are really the same as those referred to by Strabo. See Cramer, *Asia Minor*, ii. 180.

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Museum *Guide*, on the authority of Sir Charles Newton, as "wearing a veil." Now I have been enabled, with the assisatnce of Mr. Murray, to examine this head carefully all round, on the top, sides, and back. The dilapidated state of its surface makes it, no doubt, difficult to say positively what attire or ornament, if any, was originally superposed upon the natural hair. But what certainly was not superposed was anything in the nature of a projecting or hanging fabric—such as may be seen, for example, in the veil of the Cnidian statue of Demeter in a neighbouring apartment. In the head under notice the whole ear, with its immediate surroundings, is entirely uncovered. The few remains of hair which the fire has left are equally traceable, or untraceable, over all parts; and the only suggestion of any kind of drapery above the remains of hair appears in two flat polished courses running down the thick tress which falls behind. But these two flat courses seem to me rather to mark the hanging ends of a *diadema* or fillet, such as young women gathered their hair in at the back of their heads, than a spreading continuous covering, like a veil.[a] However, it is really not necessary to dwell upon this point. For even if the reality of a veil were admitted, the proposed interpretation of the head would not necessarily be affected. Although undoubtedly it was more usual to represent local divinities with the distinctive head-dress of Greek maidens, the practice was by no means universal. The coins of Corcyra, Ambracia, Lilybæum, and other Greek towns and islands, supply sufficient illustrations of local divinities wearing the matronly veil.[b] I therefore feel no scruple in assigning the head No. 45, like the other two, to the series here suggested.

Of the remaining heads there is one[c] representing a bearded man in the prime of life, which has been thought to resemble the portraits of Alcibiades, as identified by Visconti.[d] Though any such likeness must be purely accidental, there can be no question that this head is meant for a portrait, and in no way ideal.

Another more youthful and quite beardless head, unfortunately much mutilated,[e] has been supposed by some to have been intended for Apollo, though it has

[a] An arrangement of hair very similar to the present may be seen on a vase published in Müller's *Denkmäler*, vol. i. pl. xlvi. 211a.

[b] A list of such coins is to be found in Rasche, *Lexicon universæ Rei Nummariæ*, tom. v. P. ii. p. 786. An interesting bas-relief, representing Corcyra as a veiled woman, joining alliance with the *demos* of Athens, is published by Duruy, *Histoire des Grecs*, iii. 22.

[c] No. 47 in the official *Guide*.

[d] *Iconographie Grecque*, i. pl. 16.

[e] No. 50.

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no κρώβυλος, or other characteristic mark of that god; nor is it, perhaps, to be assumed as certain that its subject is male, not female.[a] It would not, in any case, accord with the views already expressed in the instances of Athene and of Zeus to assent to the attribution of this head to an Olympic deity of either sex. Indeed, I should not myself refer it to any ideal personage, of whatever rank. The features, particularly the mouth, have, to my eyes, an individuality sufficiently marked to indicate portraiture; and though the hair is thrown back in a manner which might, perhaps, be characterised as ideal, its treatment is, in fact, not very unlike that of the hair in the undisputed portrait of Mausolus, which is executed throughout in a style equally savouring of idealism. I should rather believe this head to represent some youthful and historical person connected with the Carian dynasty.

Amongst the other heads is one much smaller than the last mentioned, with a head-dress identified in the official *Guide* as the κυρβασία of a Persian satrap[b]; and another smaller still, wearing the ordinary Phrygian cap.[c]

The general conclusion resulting from my examination of all the heads broken from statues, except the three semi-colossal female ones just now referred to, is that the whole of them are remains of actual portraiture, not of ideal composition. Their varying scale shows that they must have belonged to different series, arranged, no doubt, in different parts of the building. The largest, the youthful head from a figure of doubtful sex (No. 50,) seems fitted for a statue of so-called "heroic" size, that is, about 7 or 8 feet high; and as several fragments of bodies and limbs on that scale are found in the collection, I think it not unlikely that they may all have belonged to an important series of portrait statues placed in some conspicuous part of the Pteron. What might have been the number, or about the number, of the statues so placed, is a point requiring much consideration. It would be easy to picture a host of imaginary figures filling all the vacant spaces in such a monument as the Mausoleum. But the quantity of remains discovered by the explorers which are of the heroic scale, and can be proved to belong to distinct figures, is by no means sufficient to justify so free a multiplication. Restraint is sometimes in the end more profitable than profusion; and I have thought it more likely to lead to a true result if we begin by

[a] A very competent judge, whom I have not received permission to name, but who examined the head with me, thought that it really represented some female personage. The absence of any kind of head-dress or ornament, however, seems to me against that view.

[b] No. 49.

[c] No. 51.

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considering, from the analogy of any other known monument of at all similar character, what class of persons, and how many of them, would be likely to be represented in such a series as this. Now there is one building of which we have trustworthy historical record, and of whose actual structure, indeed, some remains still exist, which may, I think, be fairly referred to for such guidance as the question admits. This is the Philippeum, or monument to Philip of Macedon, in the Altis at Olympia. Though far inferior in scale to the Mausoleum, this edifice was not very dissimilar to it in motive,[a] nor altogether dissimilar in form, as it had, apparently, a kind of Pteron open to inspection from without, instead of an enclosed *cella*. It was erected in B.C. 338, only a few years after the Halicarnassian monument, and doubtless reflected the same artistic influence; for, what is the most marked link of connection between the two buildings, the Philippeum was adorned with sculptures solely from the hand of Leochares, one of the four artists who immortalised themselves in the competition at Halicarnassus. From the account of Pausanias it appears that the principal *eikon* was the chryselephantine statue of Philip, and this was surrounded by the figures of the four persons most nearly related to him, his father Amyntas, his mother Eurydice, his first and only lawful wife Olympias, and their only son Alexander.[b] Following this analogy, therefore, I suggest a family group of similar character for the Mausoleum. In a former paper I have shortly described the colossal *eikon* of Mausolus himself, which I have assumed as the central and dominant feature of the whole monument.[c] This figure I now suggest to have been attended, on the exterior of the building, by effigies of his father and mother, his sister-wife, and, as he had no son, his two brothers, and his younger sister. Two of these persons, as the reigning sovereigns during the construction of the Mausoleum, might fairly have been treated as more important in connection with it than the other four, namely, Artemisia, who began the work, and Idrieus, her immediate successor, under whom it was continued and probably completed. Accordingly, I would place the effigies of these two in more distinguished positions, filling niches in the

[a] The chief difference, or apparent difference, is that the Philippeum was not a sepulchral monument, but a species of trophy erected in Philip's lifetime, immediately after the victory at Chæronea. In the opinion of some archæologists, however, including apparently Sir C. Newton (*A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ*, ii. 35), the Mausoleum also was begun in the lifetime of the person in whose honour it was erected, though its subsequent magnificence might have been due to the piety of his widow.

[b] Pausanias, v. 20, § 5.

[c] *Archaeologia*, liv. 353.

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east and west fronts of the podium. The other four statues I would assign to the two porticoes of the Pteron. By referring to my revised plan and elevation given in the earlier part of this paper, it will be seen that there are two intercolumnar spaces in each portico, within or behind which such figures could stand without intercepting the view of any other sculptures. Immediately behind these spaces, therefore, I would place, on the east front, Hecatomnus and his wife, whose name is unknown to us, but whom I may suppose to have been the mother of all his five children; and on the west, Ada, the sister-wife and successor of Idrieus, and their youngest brother Pixodarus, who at the date of this monument may have been a loyal subject, though he afterwards usurped the throne at Halicarnassus, and drove Ada to take refuge in Alinda.

I will now suggest, though only conjecturally and subject to future correction, the possible appropriation of a few of the sculptural remains to some of the six persons just named. The large seated and headless figure,[a] which seems from the workmanship of the back to be specially fitted for a niche, I think might have been intended for Idrieus, and so have occupied the western niche of the podium. Its drapery has some remains of paint, and it may very likely have been distinguished originally by rich polychrome decoration. In the niche of the east front, over the door of entrance, I conjecture the statue of Artemisia herself to have been placed. There is no fragment in the collection which I could pretend to identify with this interesting subject; but I presume the figure would have been seated, like that of Idrieus, and coloured with at least equal richness. The bearded head,[b] if it had been somewhat larger, might possibly have belonged to the effigy of Hecatomnus, but as it seems to me hardly up to the "heroic" scale, I prefer to consign it to another class, to be noticed subsequently. The head which has been thought to resemble Apollo[c] might not improbably have been broken from the statue of the youthful Pixodarus, or, if we prefer to adopt the female attribution already referred to, from that of his sister Ada. Again, the draped torso, which Sir Charles Newton thought to have formed part of a female figure seven or eight feet high,[d] might originally have belonged to the effigy either of Ada in the western portico, or of her mother in the eastern.

These four figures of large scale, standing on pedestals just within the porticoes, would have been well seen from below, at about fifty feet above the spectator's eye. On the other hand, figures of only life-size, such as that to

[a] No. 40. [b] No. 47. [c] No. 50.
[d] No. 42. See *A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ*, ii. 128.

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which the head of a supposed satrap belonged,[a] would have looked insignificant from fifty feet below. I have therefore assigned statues of this smaller scale, of which there are several remains in the collection, to positions at the back of the two porticoes, against the pilasters enclosing the ambulatory, where they would be invisible from below, but where anyone, after ascending by one of the inner staircases, could inspect them closely. If it be allowable to build so large a conjecture upon so small a foundation as a single head, I would suggest that No. 49 might possibly have belonged to a series representing either the ancestors of the Carian family, who had ruled at Mylassa under the authority of the Persian sovereigns, or such contemporary satraps as had been in friendship or alliance with Mausolus, such as Ariobarzanes, Datames, or others in the adjoining provinces, with whom he had once joined in rebellion against the Great King. The head in a Phrygian cap,[b] however, is too small to have belonged to any statue in an insulated position. I follow, therefore, the suggestion in the Museum *Guide*, that it may be a remnant from "some large composition in relief." In a later paragraph I will explain my idea of the composition to which it may possibly have belonged.

It would be useless to attempt to assign places for all the remaining fragments of statuary in the collection. The plan of the Pteron in my restoration would offer many positions suitable for life-size or even smaller sculptures; and the entrance-hall in the basement might have accommodated many more. There is, however, one series of figures which, though mainly decorative, is too important to be passed over. These are the remains of lions, which, judging from the heads and limbs preserved, could hardly have been less, and were very likely more, than twenty in number. They are supposed to have been intended as guardians of the monument and its contents. In considering what might have been their original position, a certain peculiarity pervading the whole series is not to be overlooked. They have no variety of attitude whatever, so far at least as can be judged from their remaining parts. One and all, they stand steadily planted on all four paws, with their heads, if preserved, never looking straightforward, but always turned more or less to the right or left. Clearly, therefore, their artistic motive was not to show the vivacity and freedom of animal life, but the constraint of architectural symmetry. They must all have been arranged in balanced groups or pairs, half of them looking to the right and half to the left, and all presenting their sides to the spectator, in heraldic language, *statant gardant*. The position which seems

[a] No. 49.

[b] No. 51.

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to me best adapted to these conditions is the peristyle of the Pteron; not indeed actually between the columns, whose interspaces are not in my design sufficiently wide for the proper display of these figures, but immediately behind the intercolumnar openings, where they would stand quite free. I have accordingly represented six lions in each of the two lateral colonnades, as well as eight on the ground below, four at each end of the building. Two of these latter stand on each side of the entrance to the basement, like the golden lions beside the door on the funeral car of the great Alexander, keeping guard against intruders.[a]

We have now considered the principal remains of the Mausoleum, architectural and sculptural, which are to be seen in our Museum. Nevertheless, it can hardly be doubted that this sumptuous edifice had originally some other decorations of a similar character, but of which neither remnant nor record has survived to us. Of the four great sculptors to whose skill the celebrity of the whole monument was, as we are told, principally due, we cannot be said to have any artistic productions which can enable us to judge satisfactorily either of their respective powers or their distinctive manners. Their work, it is to be remembered, was executed in competition (*certatim*),[b] and so evenly balanced was the result, that even to Pliny's day it was disputed to which artist the preference should be awarded.[c] Surely, the works on which critics could carry on such a discussion for four centuries must have been in a position, and also on a scale, admitting of easy examination. Yet the most important of the sculptures known to us, with which the competitors relieved (*cœlavere*) the exterior surfaces of the building, is the Amazon frieze, a work consisting of figures little more than 2 feet high, and fixed at an elevation of nearly 100 feet above the ground according to Mr. Pullan's restoration, and more than 80 feet according to mine. It may perhaps be said that the brilliancy of the Carian climate made everything clearer than we are accustomed to under our northern skies. But the brilliancy of the climate would not alter the laws of perspective. It would not make figures seen at a very acute angle, and much compressed in height by foreshortening, appear similar in their proportions to figures seen at an angle of even 45 degrees; nor would it prevent the projection of the lower parts of the relief cutting off in some places the view of the upper. All that could be judged of at such an elevation by the most keen-eyed observer would be the general decorative effect of the several series of

[a] Diodorus describes these as Λέοντες χρυσοῖ δεδορκότες πρὸς εἰσπορευομένους. xviii. 27.

[b] Vitruvius, lib. vii. præf. 8.

[c] "Hodieque certant manus." Pliny, lib. xxxvi. c. 5.

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sculptures, not, certainly, the greater or less merits of their artistic execution, compared in detail. Again, although the Centaur frieze would, in my scheme of restoration, have been placed at a height quite favourable for criticism, yet the extent of that frieze, judged from its present remains, must have been too small for it to have been carried round each side of the building, whilst its well-worn subject was too unimportant, even to a colony of Trœzenian origin, to have been selected as the chief field of competition between such distinguished rivals. I conclude, therefore, that the required field for that purpose must have been found elsewhere; and no position would seem to me more appropriate than the four wide and conspicuous surfaces of the podium, or space between the graduated basement and the Pteron. That this part of the building was in some way adorned with sculpture has been the opinion of most, if not all, preceding critics. Mr. Falkener decorated it in his restoration with two friezes, one over the other, in imitation of the Xanthian heröon; Mr. Fergusson with one frieze; whilst Sir C. Newton agreed that some such ornamentation was probably there added, though he prudently abstained from a conjectural representation of it in his published plates. But then, of course, it will be asked, why have no remains of any friezes been found, except such as by common consent have been assigned to other parts of the building than the podium? This difficulty is not, in my opinion, insuperable. The four artists employed belonged to the Attic School. They must have been familiar with that typical example of sculptural decoration in the most refined age of art, the Erechtheum at Athens. Now the *zophoros* or frieze of that building is recorded in the Greek inscription of the so-called *Marmor Architectonicum Atheniense*, now in the British Museum, as being formed of Eleusinian stone, with figures, of what exact material is not stated, fastened on to its surface.[a] And this epigraphic testimony is confirmed by the fact that remains of the iron cramps used for holding on the figures are still, or lately were, to be seen on the frieze of the west front.[b] The motives for this peculiar arrangement were probably two: 1. To show bright marble groups relieved by a dark background, not of artificial and perishable pigment, but of natural and permanent colour; 2. To enable the sculptor to work his figures in the round, perhaps

[a] Ὁ Ἐλευσινιακὸς λίθος πρὸς ᾧ τὰ ζῶα. v. line 41-2 of this inscription, the whole of which is published (more correctly than in the work of its original discoverer, Chandler) in Rose's *Inscriptiones Græcæ Vetustissimæ*, 180—206, and in the later edition of Stuart's *Antiquities of Athens*, &c. ii. 64-6.

[b] Rose (quoting Wilkins), 187, N. 5; Leake, *Topography of Athens* (2nd edition), i. 577.

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in his own studio, without the difficult and hazardous undercutting constantly required in pure alto-relievo. I suggest, therefore, that Scopas and his companions at Halicarnassus adopted this Athenian system, with due advantage, no doubt, in its own day, but with, unhappily, the same fatal result which occurred ultimately at the Erechtheum. On each of the four faces of the podium was inserted, as I suppose, a horizontal course of some dark stone, to which each artist attached by metal cramps figures in Parian marble of, perhaps, 4 or 5 feet high, a dimension which would suit the head in a Phrygian cap just now referred to.[a] But the evil fortune of the Erechtheum befel also the monument at Halicarnassus. The whole of the attached sculptures in time fell off, and were thus either destroyed, or, if any parts of them survived, were made incapable of future identification and readjustment; for isolated fragments, without the backgrounds which had originally held them in position, could give no clue to the composition of the groups of which they had themselves once formed parts.

As to the subject of these friezes nothing can be affirmed positively. But I think it most probable that, like the friezes which ran round the podium of the monument at Xanthus, they were historical or biographical. At the funeral games celebrated by Artemisia in honour of her husband, four rhetoricians, Theodectes, Isocrates, Theopompus, and Naucrates,[b] competed with each other in epideictic orations in praise of Mausolus. I do not infer from the mere coincidence in number that the subjects of the four panegyric orations and those of the four friezes were adjusted beforehand so as to correspond respectively with each other, as this might have inconveniently fettered the invention both of orators and sculptors. But generally, so much of harmony would have been secured in the representation of events and achievements in the life of the departed ruler as would have enabled the images presented by the artists to the eye to accord with the deeds commended by the rhetoricians to the ear. And thus the decorations suggested would have made the whole building a memorial at once national and dynastic; its two smaller friezes dealing with the ancestral and chiefly mythical traditions of the Carian people, whilst its larger and more important ones related to the contemporary deeds and fortunes of the family which then governed Halicarnassus.

There is one more form of statuary, however, largely practised by the Greeks, and therefore probably employed in the Mausoleum, but of which no examples

[a] No. 51.

[b] The authorities for these four names are given by Clinton, *Fasti Hellenici*, ii. 287.

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are found in the Museum collection. This is figure-work in bronze. On the head of the quadriga horse are still to be seen remains of a headstall and reins in this metal; but the group the horse belonged to was buried in a heap of ruins, which Sir Charles Newton was satisfied had never been disturbed since the first overthrow of the monument. All other bronze-work, whether in statuary or minor decorations, would, if discovered in the Middle Ages or in the time of the Rhodian Knights, have inevitably been melted down for the sake of the metal. We cannot therefore reject, as incompatible with evidence, the belief that there may originally have been important works either in bronze, plain, gilded, or inlaid with more precious substances, or even perhaps in gold and ivory, in different parts of the building. In explaining my restoration of the architecture I have stated my opinion that the centre of the Pteron was occupied by a colossal *eikon* of Mausolus, supplying the artistic motive for all the surrounding work. Although the principal statue of the Philippeum at Olympia was chryselephantine, it may be doubted whether such costly materials would have been used on so large a scale as I have adopted for the central statue here. I am content, at any rate, to treat that statue as simply of bronze. The iconic figure I have inserted in my illustrative plates is designed after a Greek vase-painting; but that appropriation being necessarily without authority, it is not worth while to dwell on its details. I will merely say that I have here represented Mausolus in military costume, partly to vary the figure from that in the quadriga, and partly because I think that in the position intended the artistic effect requires the greatest attainable lightness of form. The material suggested favours this lightness. For a bronze statue may rest on its own legs alone, whilst a marble one would require to be sustained either by solidly-constructed drapery incompatible with armour, or by some accessory otherwise superfluous, to serve as a prop at the side.

But besides this central *eikon*, I think it most probable that other bronze figures, of a less important and more decorative character, would have once adorned the Mausoleum. The introduction of some such figures, in one material or another, seems to me specially justified, so far at least as they would conduce to the artistic completeness of the building, on the strength of a certain historical analogy which I will now explain. When Alexander invaded Asia, he is related to have been detained several months before Halicarnassus by the vigour of its defence. During this period the architect Deinocrates, and other artists in the train of the great Napoleon of Macedon, must have had ample opportunity for studying the most sumptuous specimen of sepulchral architecture known to the Greek world, which was conspicuous before their eyes. Not long after they were

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called on to erect a funeral pyre for Hephæstion, which, in accordance with Alexander's character, was to transcend in magnificence all edifices designed for a purpose in anywise similar. It would be but natural for them, then, to refer to the much admired monument they had so lately been viewing, not exactly as a model, for their own work was designed for the use of a day, whilst the other was for centuries, but as a root of ideas, a type for developement in the more exuberant and ostentatious form which the cheap and perishable material of the intended structure admitted. The result was the stupendous pyre described by Diodorus,[a] a theatrical and tasteless exaggeration, as I venture to think, but not the less useful to us as a clue to some of the decorative features of the more soberly conceived building which I suggest to have been its prototype.

The pyre consisted of five stories or tiers, arranged in a quasi-pyramidal form. On the lowest tier were fixed two hundred and forty prows of quinqueremes, overlaid with gold, and all having two archers on their *epotides*, or platforms above. The second and third tiers had, respectively, fantastic imagery and the chase of wild animals represented upon them. The fourth had a golden, or, doubtless rather, a gilded Centauromachia, a subject identical with that of one of the Mausoleum friezes. On the fifth tier was a row of lions and bulls arranged alternately. In the part above these were introduced trophies of arms, partly Macedonian, partly of conquered barbarians. The whole was crowned with hollow figures of sirens, intended to contain musicians inside, though how their performances were to be conducted when the pyre was in flames Diodorus leaves to the imagination of his readers to conceive.[b]

Out of this gorgeous array I have selected two classes of embellishments which seem to me the most likely to have had their prototypes in the Mausoleum. They are those assigned to the highest and lowest tiers of the pyre, the trophies of armour above and the prows of galleys below, which together would have indicated intelligibly the conquests of Mausolus by land and sea. I have placed sixteen trophies over the two octostyle colonnades at the sides of the building, and a prow below each outer angle of those colonnades, supported on a pedestal rising through the graduated basement, and serving as a break in the long horizontal lines of its gradines. On each prow I have represented, in place of the two archers of Hephæstion's pyre, a standing figure of Victory, such as is com-

[a] Lib. xvii. c. 115.

[b] Cf. Quatremère de Quincy, *Monumens et ouvrages d'art antiques restitués*, and *Dictionnaire historique d'Architecture*, s.v. *Mausolée;* Donaldson, *Architectura Numismatica*, 177.

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monly shown in that position on Greek coins of the period, and as may also be seen in the marble statue from Samothrace now in the Louvre Museum, which expresses the same idea. The whole of these decorations I suppose to have been of bronze, and therefore long since destroyed by the spoiler.

The remaining fragments of sculpture, whether actually preserved, or only reproduced conjecturally in my design, are too unimportant to be dwelt on here. I will therefore now close my comments on the subject, which have already extended to a greater length than I, or perhaps any of my readers, had originally contemplated.

*** In the discussion which followed the reading, on the 3rd December, 1896, of my objections to the suggested disseverance of the two principal statues from the quadriga, the President of the Society called attention to a most important element of the question, which had hardly, he thought, been sufficiently considered, namely, the precise part or parts of the site of the Mausoleum on which the sculptures referred to had been discovered. In the paper then just read, which is printed in the foregoing pages, I had purposely limited myself to a reply to Professor Gardner's arguments, quoted and examined seriatim; and as none of those arguments alluded to the question of site, I was led to omit all but a rather cursory reference to what I agree with the President in regarding as one of the most essential heads of the inquiry. Happily, it is one on which we possess the most clear and, as I think, decisive evidence from the highest authority. For in describing, some years after, the sculptures he had sent home from Budrum in H.M.S. "Gorgon," Sir Charles Newton says, "Of these, the most remarkable is the colossal statue generally considered to be that of Mausolus himself, which has been put together from sixty-five separate fragments, *all of which were found behind the marble wall*,"[a] that is, the ancient wall of the *peribolus*, on the north side of the Mausoleum, and but a few feet from it. This is the identical spot where the remains of the horses, the chariot-wheel, the steps of the pyramid, and the fragments of the statue of Artemisia, lay collected together, apparently undisturbed since the overthrow of the building. Now, throughout Sir C. Newton's description of the produce of each of the several localities explored on or near the excavated site, one important distinction is to be observed. All the remains of such miscellaneous works, architectural or sculptural, as must have decorated parts of the monument

[a] Newton, *Travels and Discoveries in the Levant*, ii. 114.

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below the pyramidal roof were found scattered about promiscuously within or around the quadrangular area of the basement, having probably either fallen there originally during the earthquake, or been shifted thereto in some of the subsequent depredations. But not a single fragment of the upper pyramid, or of its crowning sculptural group (except a piece of one chariot-wheel and a hough joint of one of the four horses, which must have dropped off on the south side at the beginning of the earthquake), was found anywhere but on the spot which he describes as "behind the marble wall." It is obvious that, when the earthquake occurred, the whole summit of the pyramid, with its colossal *epithema*, was carried by one impulse over the north wall; and no part of the huge mass thus precipitated could have recoiled backwards, so as to alight within the intramural area. On the other hand, it is quite possible that sculptures falling from a lower stratum of the building, such as the peristyle of the Pteron, or the flank wall of the podium, though equally carried northwards by the seismic impulse, yet being from their diminished elevation less forcibly propelled, might have descended on the top of the north wall (where, in fact, a broken lion was found lying astride), and thence have bounded on to the same spot on which the gigantic group from above immediately fell. Or again, it is not improbable that some of the miscellaneous and smaller sculptures found on or near that prolific spot might have been cast there in some unrecorded clearance of the adjoining area, whether by Schlegelholt, De la Tourette's comrades, or the inhabitants of the neighbourhood. Either supposition would amply account for the circumstance on the strength of which Professor Gardner, in his reply to the President, sought to depreciate the importance of the evidence of site, namely, that a few small pieces of sculpture manifestly unconnected with the quadriga, chiefly heads of statues and parts of lions, were found with or near its remains. If, then, we mean to assert that the two semi-colossal figures are to be classed with these casual fragments, as having fallen not from the summit, but from some lower part of the building, we must be prepared to assume that, by some marvellous co-ordination of dynamic anomalies, the whole ponderous bulk of the male figure, which was found in sixty-five pieces, and the whole similar bulk of the female figure, which was found also in pieces, were diverted bodily from the area into which they would naturally have fallen, and carried together over the wall to a spot where they could mix themselves up undividedly with the remains of a group with which it is asserted that they had nothing whatever to do! It can hardly be necessary to discuss further the credibility of such a theory.

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Fig. 2.

Fig. 3.

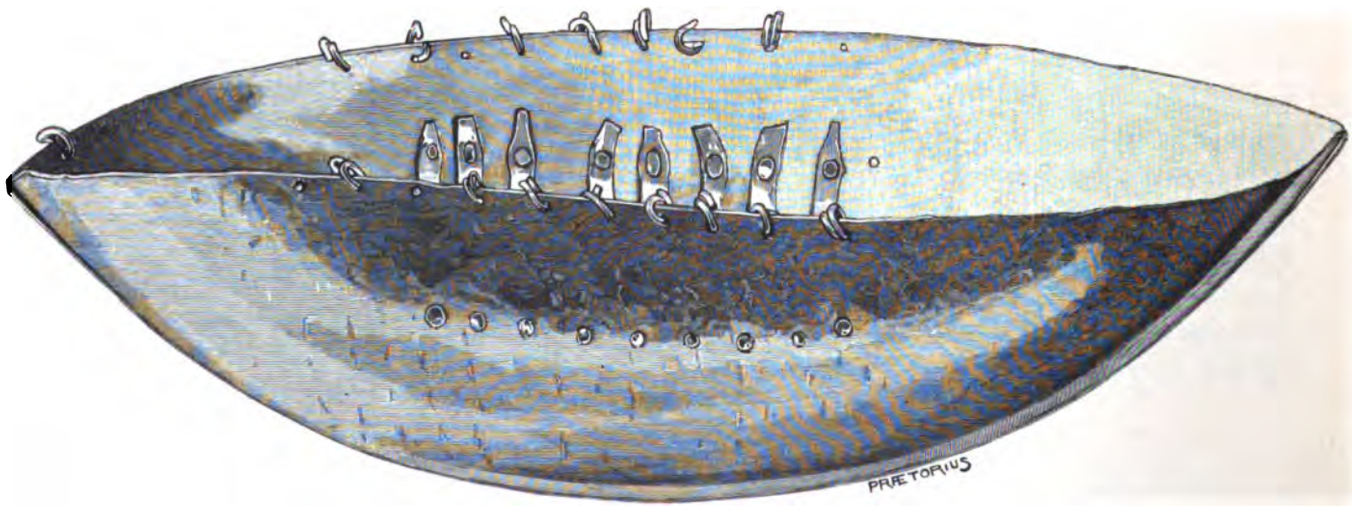

Fig 1.

GOLD BOAT, BOWL, AND NECKLET FOUND IN IRELAND.

(Full size.)

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XVII.—*On a votive deposit of Gold Objects found on the North-West Coast of Ireland.*

By ARTHUR J. EVANS, *Esq., M.A., F.S.A.*

Read 21st January, 1897.

A REMARKABLE hoard of gold objects was recently acquired by our Fellow Mr. Robert Day, of Cork, who has kindly allowed me to describe them and exhibit them to the Society. The objects were found together by a ploughman, who turned them up in subsoiling, and the ploughshare somewhat injured the boat and bowl. The spot where the treasure was found is near the sea on the north-west coast of Ireland.

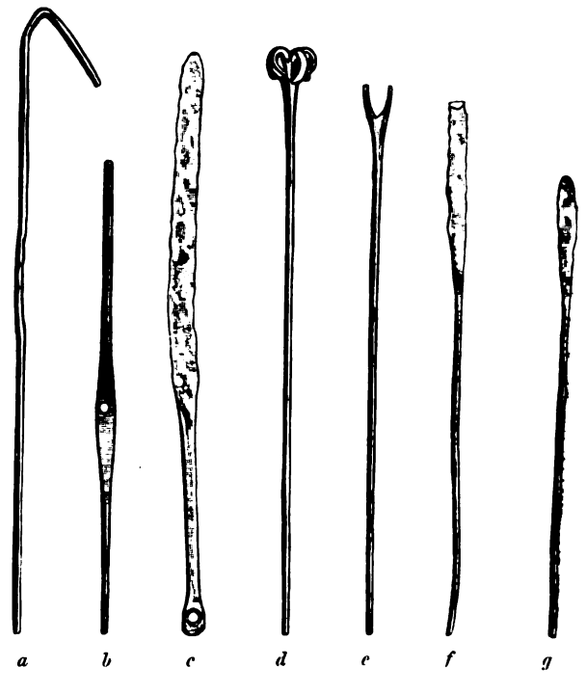

Fig. 1. Minor objects found with a votive Gold Boat on the north-west coast of Ireland. (Full size.)

The objects, which are all of gold, consist of a small boat with rowing benches and a place for a mast, miniature yards, oars, a grappling-iron, and other implements; a bowl, apparently intended for suspension from four rings; two chains of very fine fabric; two twisted gold neck-rings, one of them broken; and a hollow gold collar with *repoussé* work designs, beyond question the most magnificent object of its kind ever discovered. In the following account I have to acknowledge the kind assistance rendered me by Sir Wollaston Franks and Mr. C. H. Read.

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The Boat.

The boat (Plate XXI. fig. 1) is $7\frac{1}{4}$ inches long by 3 inches broad. It is of pale gold, apparently approaching electrum and containing a fair proportion of silver, and it weighs 3 ozs. 5 dwts. It was provided with nine benches for rowers, of which the first is now wanting. The central one is slightly broader than the others, and has a hole in the middle through which originally the mast passed. Moveable wire rings, attached to the margin by means of a series of small holes, serve for the rowlocks, and the number of holes shows that there were originally nine of these on each side, giving two rowers to each bench, or eighteen in all. There is besides another moveable ring on the left side of the boat at the stern for the steering-oar or rudder. This (fig. 1*c*) and fifteen of the oars have been preserved. The oars are about $2\frac{3}{4}$ inches in length, and their blades are, with the exception of two, more or less lanceolate (fig. 1*g*). The two exceptional oars (fig. 1*f*) have a square, chisel-like end.

Besides the oars there were found a miniature grappling-iron (fig. 1*d*) with four hooks, a boat-hook (fig. 1*a*), and three forked implements (fig. 1*e*), which may either be fishing-spears or, more probably, forked barge-poles, such as are still in use. The mast is wanting, but the yard (fig. 1*b*) has been preserved, and there is also another small spar. A certain analogy with the steering-oar and the square-ended variety is presented by an ancient Irish oar-blade of black oak found at Toome Bar, on the lower Bann, and shown in fig. 2.[a]

Fig. 2. Irish oar-blade found at Toome Bar.

The boat itself is made of a single sheet of gold plate, which has, however, been slit and rejoined at the prow and stern. From its capacity and width it is impossible to regard it as a mere "dug out," though in form it unquestionably belongs to the genus "tub." It must, in spite of its rude appearance, represent a regularly built craft.

Some faint punch-marks are observable on its under-side, roughly arranged in vertical lines. These marks are so rough that they may, perhaps, be simply the result of the methodical hammering of the plate into shape. This regular arrangement suggests, however, the appearance of the ribs of a boat, the framework of which was covered with hides in the place of planks.

[a] From Wilde's *Catalogue*, etc. i. 204, fig. 188, No. 3. The Society is indebted to the Royal Irish Academy for the loan of this illustration.

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There is a variety of evidence to show that sea-going vessels of this class were constructed by the ancient Irish and other Celtic populations. The following passage in the *Second Life of St. Brendan*[a] describes an ancient "currach" made in this way: "They made a very light barque, ribbed and fenced with timber, and covered it with raw cowhide . . . . They also fixed a tree in the midst of the barque and a sail and other things belonging to the steering of a boat." There are other instances in which the old Irish "currachs" are furnished with sail-yards, sails, and ropes, as well as oars.

Earlier evidence of the same kind is supplied by Festus Avienus's description of the Pictish vessels sewn with hides, and sea-going ships of composite construction with hides in place of planks were known to the ancient Britons. In this respect Cæsar himself took a lesson from the native shipbuilders, and on the occasion of a Spanish campaign[b] ordered his men to construct vessels on the British model, with keels and ribs of light timber, the rest of the hull being supplied by wicker-work covered with hides.

It is obvious that in the boat before us we have not so much to deal with an exact model or miniature reproduction as with a rough representation of the votive class. It would indeed be easy to find an almost perfect analogy among the small votive offerings of returned mariners suspended in the shrines of Roman Catholic countries. In such cases the work itself is often of the poorest kind, but although the local workman was incapable of giving anything more than a general representation of the whole, he is often excessively careful in introducing the proper complement of details, such as, in this case, the right number of oars, spars, and boat-hooks.

The Bowl.

The bowl or cup (Plate XXI. fig. 2) is formed of the same pale gold as the boat. It is beaten out of a single thin plate and weighs 1 oz. 5 dwts. 12 grs. It has four double perforations at equal distances round its rim, with a small wire linked through each, from which, in two cases, a larger twisted ring hangs down like the handle of a cauldron, and indeed the twisted handles are characteristic of some early iron cauldrons found in Ireland. Faint punch-marks roughly arranged in horizontal zones round the exterior of the bowl, if they be anything more than

[a] T. Wright, *Notes to Metrical Life of St. Brendan;* quoted by Miss Stokes, *Three Months in the Forests of France*, p. xxxvii. In the introduction to this work (p. xxxiv. *seqq.*) much interesting information regarding ancient Irish ships and boats is collected, to which I am indebted.

[b] Cæsar, *De Bello Civili*, l. c. 54, "Imperat militibus Cæsar ut naves faciant cuius generis eum superioribus annis usus Britanniæ docuerat. Carinæ primum et statumina ex levi materia fiebant; reliquum corpus navium viminibus contextum coriis integebatur."

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tool-marks, might suggest a reminiscence of the rivetted plates of metal that formed the sides of the Early Iron-Age cauldrons. The fact, however, that the bowl had four rings, for presumable attachment to chains, instead of two, may be thought to militate against its identification with a cauldron, since the early examples of these that have been preserved have only two rings for suspension. Perhaps it should therefore be regarded as the scale of a measure. Mr. Day suggests that it was a lamp.

The Chains.

The larger chain (Plate XXII. fig. 1) consists of three separate strands, each formed of quadruple links joined together by what may be called the bolt ends of the necklace. It is 14¼ inches in length, of a dull gold, of different alloy from that of the boat and bowl, and it weighs 2 oz. 7 dwts. The fastening (*see* fig. 3) is a regular bolt, a double pin sliding in and out of a loop. The outside of this lock is ornamented with granules; some of them arranged in pyramids of three. The chain itself is of exquisite fabric, and the links are all spirally twisted.

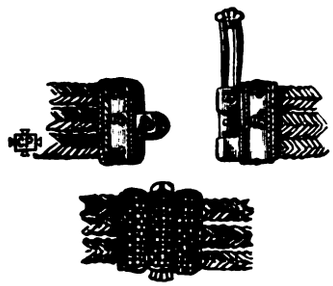

Fig. 3. Fastening of the larger Gold Chain or Necklace found in Ireland. The upper figure represents it open as seen from behind; the lower closed as seen in front. (Full size.)

The smaller chain (Plate XXII. fig. 2), which is 16½ inches in length, consists of a most complicated plait-work of eight wires. It weighs 6 dwts. 12 grs., and is of the same poor gold as the other. Its fastening (*see* fig. 4) is on the same principle.

Fig. 4. Fastening of the smaller Gold Chain found in Ireland. (Full size.)

The extraordinary fineness and the complicated character of these chains mark a very different style of goldsmith's work from that of the boat and bowl. Their civilised appearance and, perhaps, the quality of the gold recall certain chains of Greek and Greco-Roman fabric. A plait-work chain resembling the smaller of the two, but with a hook fastening and of even more delicate fabric, was found in a tomb at Curium, the principal interment in which belonged to the fifth century, B.C.[a] General Cesnola obtained a similar chain from the same site, and similar chains are known from Etruscan tombs of the fifth

[a] Tomb. No. 86, Turner Fund Exploration, British Museum. A few Mycenæan objects were found in the inner chamber, and in a separate position a "woman and pitcher" vase of Ptolemaic date, otherwise the deposit seems to have belonged to the best period of classical art in the chamber. With the chain was found a gold ring engraved with a female head, belonging to the second half of the fifth century B.C.

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and sixth centuries before our era. Two electrum chains formed like the larger of the two Irish chains, one ending in a knob like the smaller example, occurred among the sixth century Greco-Scythian relics of the Vettersfelde find.[a] An earring with pearl pendants suspended from fine gold chains of the same kind was found in a tomb at Kalymnos,[b] and with it was another earring with a kind of openwork canopy showing the pyramidal granule ornament seen on the fastening of the larger of the two Irish chains. This double parallelism is significant, and in this case the form of the earrings seems to point to Roman Imperial times. Similar chains of late Ptolemaic or early Egypto-Roman fabric have been found at Alexandria.

The manufacture of fine chains was not, however, confined to the classical world. The use of such chains for suspension between a pair of *fibulæ*, one worn on each breast, is a well-known Celtic fashion. On the earlier class of Late-Celtic *fibulæ*, these chains are generally of simple and somewhat coarse construction, such as those from the Champagne cemeteries, dating from the third and fourth centuries B.C.[c] But there is evidence that the use of very fine silver chains for this and other similar purposes goes back among the Gaulish tribes of the Continent at least to about 200 B.C. They are found in "Middle La Tène" interments belonging to that time in the great cemetery recently excavated at Jezerine, in Bosnia.[d]

Silver chains of the same fine fabric were also found attached by rings to *fibulæ* of the same metal in a tomb of a Gaulish cemetery at Ornavasso, in the province of Turin.[e] They were there associated with a Gaulish silver coin[f] of a type disseminated in the Upper Rhone Valley and the neighbouring Alps,[g]

[a] A. Furtwängler, *Goldfund von Vettersfelde*, 10, Taf. ii. fig. 3.

[b] Brit. Mus. 56, 8-26, 722.

[c] See for example Morel's *La Champagne Souterraine*, pl. xv. 7; xxix. 27; xl. 4.

[d] See *Wissenschaftliche Mittheilungen aus Bosnien und der Herzegovina* (Vienna, 1895), iii. 128, figs. 336, 337, 340, and 137, fig. 372. In these cases they are in double or treble rows with terminal rings, some with pendent ornament attached.

[e] E. Bianchetti, *I sepolcreti di Ornavasso* (Turin, 1895), 227, 228, tav. x. 6—10.

[f] Cf. *op. cit.* tav. xiv. 16—18.

[g] Mommsen, *Die Nordetruskischen Alphabete*, Taf. I. 7, 8, pp. 202, 253; Meyer, *Beschreibung der in der Schweiz aufgefundenen Gallischen Münzen*, Taf. i. 1-5, pp. 1, 2. The legend of the Ornavasso coin is read DIKOI by Bianchetti. It seems probable, however, that it should be completed ᚴDIKOF = Prikou, a legend seen on gold coins of the same region, attributed by Mommsen to the Salassi. Mommsen (*Op. cit.* 253) regards the silver coins of this class as contemporary with the gold coins of the Salassi of the Val d' Aosta, which were struck on the Roman footing about 150 B.C., and the identity of inscription would be a corroboration of this view. The contents of the

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representing a very late degeneration of the fourth century hemidrachms of Massalia. The date of the coin in question is about 150 B.C.

A pair of Celtic silver *fibulæ* connected with a chain of the same metal were also found in the hoard of Lauterach, near Bregenz, associated with Gaulish and Roman consular coins, the latest of which were struck in 80 B.C.[a]

Very fine silver chains of a somewhat later date have been found attached to silver *fibulæ* of British fabric. As an instance of this it may here be sufficient to mention the silver chain found, with two enamelled silver *fibulæ*, originally connected by it, at Chorley, in Lancashire, together with a hoard of Roman coins. These *fibulæ*, now in the British Museum, are of a type peculiar to Roman Britain and represent there a purely Celtic tradition.[b] The chain is very similar in fabric to the smaller of the two Irish specimens, and there is every warrant for supposing that it was from the hand of the same British craftsman, to whose skill the *fibulæ* to which it is attached were also due. There is then good reason to believe that such fine chains were made during this later period by British artificers. The date of the Chorley find is approximately fixed both by the type of the *fibulæ* themselves and the coins found with them, which range from Galba to Hadrian, from 68 to 138 A.D.

It thus appears that these fine chains were in use among the Celtic peoples during the first two centuries before and after our era. In Britain however the finest class is, as far as I am aware, confined to the latter half of this period, the chains attached to the earlier of British *fibulæ*, like one in the British Museum from the Warren, near Folkestone, which may date from the second century B.C., being, like those referred to from the Champagne cemeteries, of simpler and coarser construction.

In the case of the gold chains from the present hoard there is no evidence of the attachment of *fibulæ*. From the fact of their fastening with a clasp it is probable that they were worn round the neck, perhaps for the suspension of the twisted torques. The method of fastening by a pin, inserted through and thus locking the loops at the two ends of the chain, as in fig. 3, is remarkable. It is a common method of fastening in India and other Oriental countries at the present day.

The same method, however, was also known to classical goldsmiths. Mr. Hilton Price has kindly shown me two gold bracelets in his collection, from Alexandria,

Ornavasso tombs themselves show that already before that date the Roman *asses* and *denarii* had become the usual currency of this part of Cisalpine Gaul.

[a] Dr. S. Jenny, *Die Münzenfunde bei Lauterach. Mitth. d. Central Commission, &c.* 1881, p. 87 *seqq.*

[b] See *ante*, p. 185.

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with similar fastenings. In one case the bracelet is locked by a divided pin precisely similar to that of our larger chain, and the plate of the clasp is adorned with pyramidal granules. Another bracelet from Alexandria of the same class in the collection of Sir John Evans shows a fastening on the same principle. These bracelets are ascribed to the latest Ptolemaic and Early Egypto-Roman times and belong to the first century before and after Christ. Fine gold chains closely resembling the specimens from Ireland have also been found with jewelry of this class, and, considering the extent of the parallelism shown by the occurrence in both cases of the double removable pin and the granular ornamentation of the clasp-plate, there arises a fair presumption that these objects may have been imported to the British Islands from Alexandria about the beginning of our era. In any case we obtain here a chronological fixed point of the greatest value.

The alternative supposition, indeed, that they were of British fabric closely imitated from Greco-Egyptian models at least deserves attention. The usage of such fine chains was an old Celtic tradition, and, as we have seen, silver chains comparable in workmanship to these gold examples have been found attached to *fibulæ* of distinctively British manufacture. It is true that this characteristic form of fastening is new in connexion with Celtic chains, but a very close parallel is apparently presented by the thin-plated jointed bracelets of Late Celtic fabric found in Scotland,[a] where the fastening seems to have resembled a hinge with a removeable pin.[b] There are certain features in the gold chains before us which also point to known Late-Celtic analogies. The fashion of wearing three chains together united at their ends is illustrated by examples from the great Jezerine cemetery already referred to. More than this, the socketing of the ends of three chains in a flat covering-plate, as seen in the larger of the Irish chains, finds an absolute parallel in the silver collar found at Æsica[c] with *fibulæ* belonging to the latter part of the second century of our era. In my account of the Æsica collar attention has been already called to certain features which seemed to point to the influence of Greco-Egyptian jewelry.[d]

Whether the chains before us should be regarded as Celtic, and in that case probably British, products, executed under the influence of classical models, or as

[a] *E. g.* one from Plunton castle, Kirkcudbrightshire. *Proceedings of the Society of Antiquaries of Scotland*, xv. 331, fig. 28.

[b] The pin is wanting, but the fastening is thus described, *loc. cit.*: "The armlet is formed of two curved plates of bronze, probably held together by a bronze pin or moveable joint to allow it to be opened and fixed on the forearm or wrist."

[c] See *ante*, p. 179, fig. 1.

[d] See *ante*, p. 180.

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actual imports from an Alexandrian source does not affect the main value of the evidence that they supply. In any case, we must admit a very great conformity with certain characteristic features of the Late-Ptolemaic and Early Egypto-Roman jewels of the kind, and in any case we obtain an approximate chronological guide pointing to the beginning of our era.

The twisted Necklets.

Of the twisted necklets there were originally a pair, of one of which only about half is preserved. They are of very pure gold, and the perfect specimen, which is about 5 inches in diameter, weighs 3 oz. 7 dwt. 9 grs.[a] The characteristic feature of these necklets (Pl. XXI. fig. 3) is that a twisted wire has been wound round the spiral grooves of the torque itself. The use of twisted wire we have already seen exemplified among the other objects from this deposit in the handles of the bowl or miniature cauldron, and in the links of the larger chain.

This method of applying twisted wire to spiral ornaments is not infrequent in ancient jewelry. A very near parallel is supplied by a twisted gold arm-ring, without opening, wound round with beaded wire, found in one of the most characteristic Continental deposits of the Late-Celtic class, that of Waldalgesheim, near Bingen on the Rhine.[b] This deposit, which was of a sepulchral character, contained, amongst other imported objects, a bronze pail of Italo-Greek fabric,[c] belonging apparently to the third century B.C.

A spiral gold arm-ring of the same type, rolled round with twisted wire, was found at Hurstpierpoint in Sussex,[d] but in this case the circumstances of the find have not been handed down. Otherwise the procedure seems specially characteristic of the Viking period.

Necklets and armlets of this type, both of gold and silver, formed part of the great hoard found at Douglas in the Isle of Man, associated with Saxon coins which fix the date of the deposit between 925 and 975 A.D.[e] Twisted silver neck-rings coiled round with twisted wire are also found in Gothland[f] and elsewhere in Scandinavia in deposits dating from the same period.

[a] The fragmentary specimen weighs 1 oz. 10 dwt. 4 grs.

[b] *See* E. Aus'm Weerth, *Der Grabfund von Waldalgesheim* (Bonn, 1870), taf. i. fig. 4, p. 15; Lindenschmit, *Alterthümer, &c.* B. iii. H. i. T. I. i.

[c] *Op. cit.* taf. iii.

[d] In the British Museum, from the Payne Knight collection.

[e] The objects are in the British Museum.

[f] *Cf.* Montelius, *Les temps préhistoriques en Suède* (traduction S. Reinach, 1895), 254, fig. 355.

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It is, however, to be observed that in the Douglas and Scandinavian examples, belonging to the Viking period, the fastening of the twisted torques is a hooked end caught in a long loop. In the Irish specimen, on the contrary, the hook is shorter, and caught in a mere eye, and this form of fastening is found in the case of a series of early Gaulish Torques from the Champagne cemeteries.[a]

The Collar.

The magnificent hollow gold collar or hollow torque[b] shown in Pl. XXII. fig. 3, is $7\frac{1}{2}$ inches in diameter, and the section of its tubular ring $1\frac{1}{8}$ inch. Apart from its fastening, it is formed of two *repoussé* plates of thin gold, folded over into a tubular form and soldered together. This delicate tube must undoubtedly have been backed and supported by a central core, which was probably formed, as in the case of another tubular torque found at Frasnes, in Belgium, by a circular iron rod, surrounded by hard cement. The ornament on both halves of the collar absolutely corresponds, and must have been executed in the same matrix, perhaps an engraved bar of bronze, like one used for beating out early Corinthian diadems, which is now in the Ashmolean Museum.

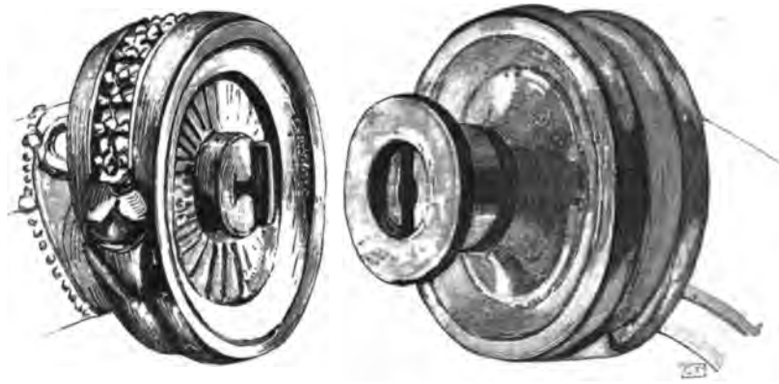

Fig. 5. Fastening of a Gold Collar found in Ireland. (Full size.)

The fastening of this collar is most remarkable. At one end is a fixed projection, like the cock of a tap, which catches in a slot at the other extremity (*see* fig. 5). This is so arranged that, in order to open the collar when thus locked, one-half of it has to be turned at right angles to the other. A section,

[a] E. G. Morel, *Champagne Souterraine*, pl. xxi. 3; xxii. 6.

[b] The classical word *torques* as applied to the neck ornaments of the ancient Gauls does not necessarily imply that they were always twisted, though that is the original and etymological sense of the word.

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apparently about 2 inches in length, at the back of the collar on the opposite side to the fastening is unfortunately wanting, though rivet holes are seen at the end of the two tubes for attachment to it. A part of this, at least, must have been removeable in order to allow the one side of the hoop of the collar, when worn round the neck, to turn round enough to free its key from the key-hole of the other side, or at all events to allow it to turn enough to slip the collar off the neck.

So far as the key itself is concerned, a perfect analogy is presented by some gold torques found at Serviés-en-Val, near Carcassonne, in the territory, that is, of the Volcæ Tectosages.[a] The opening of these torques terminates on one side in a cock-like projection of the same form as that of the Irish specimen, but in this case, instead of turning round after insertion in an oblong slot, it fits into the upper part of a T-like opening, and is caught by sliding into the vertical line of the T.[b] The hoops of the torques in question were of solid twisted metal, and a very slight bend would in this case suffice to slide the key from its catch.

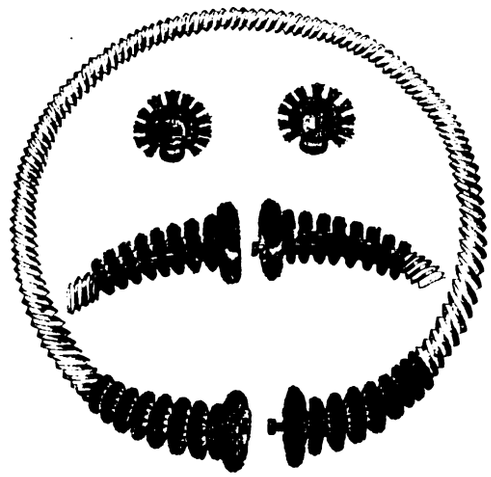

Fig. 6. Gold Torque found at Serviés-en-Val, near Carcassonne. (½ linear.)

The method of locking varies thus in the two cases, but the identical form of the key, and the general principle involved, supply good reasons against separating by too wide an interval the date of the production of the Irish torque from that of the Gaulish example. These were, as will be seen from fig. 6, representing the most ornate specimen from Serviés-en-Val, of a very different type. The solid twisted hoop is here fitted towards the opening with a series of foliated rings; in other examples the hoop ends in two plain disks. It will be at once

[a] *See* J.-P. Cros, "Mémoire sur des torques-cercles Gaulois trouvés à Serviés-en-Val (Aude)," in *Mémoires de la Société Archéologique du Midi de la France*, iv. 143 *seqq.* and pls. xvii. xviii. xix. whence the accompanying illustration (fig. 6) is reproduced. The torques are now in the museum at Toulouse.

[b] A certain analogy to this form of catch is presented by a gold twisted torque from Södermanland, Sweden, belonging to the Early Iron Age of Scandinavia (Montelius, *Antiquités Suédoises*, 103, fig. 343).

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seen that the Serviés torques belong to a late period of Gaulish art. The foliated work in fact shows a certain approach to that on the back of some British or Romano-British *fibulæ* of the first two centuries of our era, of which those from Chorley are an example. It must, however, be borne in mind that Tolosa, the capital of the Volcæ Tectosages, in whose territory these massive gold torques were found, was already plundered of its celebrated hoards of gold by the Roman Consul Cæpio about 106 B.C., and already before Cæsar's time had been incorporated in the Roman *Provincia*. That the deposit of the hoard itself was connected with these events, and was actually a part of the *aurum Tolosanum*, is by no means improbable. In any case it would be difficult to bring down independent Gaulish work of this rich kind in that region later than the beginning of the first century B.C.

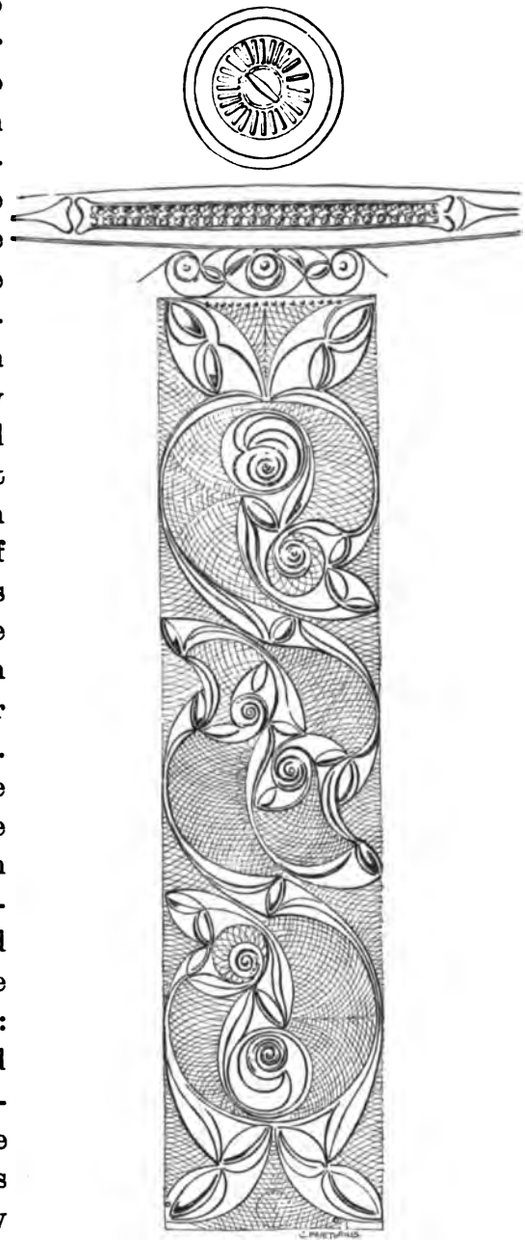

Fig 7. Plan of the fastening, and scheme of ornamentation of a Gold Collar found in Ireland. (½ linear.)

The scheme of the ornament on the Irish specimen before us can best be understood by the annexed illustration (fig. 7), which gives a faithful presentment of the design as originally executed on the flat surface of the plate. The decoration is produced by two methods: *repoussé* work, and a series of engraved lines filling the vacant spaces in the interstices of the raised ornaments. These fine lines are curved and form more or less concentric groups. They were in nearly all cases executed with a compass, and they illustrate the process by which the harmonious curves of *repoussé* ornament were first sketched out. This engraved work was executed after the *repoussé* design itself had been completed, and certain

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straight lines seen in places along the axis of the collar and at right angles to it seem to have been drawn for the purpose of regulating the arrangement of the concentric groups. At the back of the collar on one side is seen a complete circle, with the point-mark of the compass in the middle.

This compass-work, which must have also been employed in the original design of the *repoussé* ornament itself, plays a very important part in Late-Celtic ornament. It is well known on the mirrors, sheaths, and other objects of metal-work, and has recently been found applied to wood-work decoration in the Glastonbury Lake Village, a fact which shows that the art had attained considerable development in our island before the Roman Conquest of that part of Britain. But the best illustration of compass-work designing is supplied by the objects discovered in the so-called tomb of Ollamh Fodhla. A number of bone flakes were there found ornamented with a quantity of compass-work figures, and iron compasses were found with them, showing that this primitive shelter had been used by a Celtic craftsman to practise this art of design. The compass-work on the gold collar itself displays great accuracy and proficiency, and is unique of its kind. It is used here to fill up between the interstices of the *repoussé* reliefs, where there is more usually found only a hatchwork of engraved lines.

The relief work is executed in a bold and brilliant style which marks it as belonging to the most flourishing period of Late-Celtic work. Among its most characteristic features are the spiral coils which terminate many of the sprays and recall certain helix shells. The outer whorls of these snail-like coils overhang the surface of the collar, and they could not therefore have been executed by a *repoussé* process. On minute examination they are seen to be each of a separate piece inserted in small circular holes cut out of the face of the collar and secured within by overlapping tags.

The nearest approach to these snail-like coils on Celtic metal work seems to be found on certain sprays of the *repoussé* bronze and enamelled shield from the River Witham.[a] This shield is perhaps slightly earlier than one of similar shape, but somewhat more elaborate design from the Thames[b] belonging to the latest Pre-Roman period of Southern Britain. That from the Witham may therefore be approximately referred to the Christian era.

The combination of engraved line work with *repoussé* reliefs is also found in some Late-British bronze work of the same period, as, for instance, the horned

[a] A. W. Franks, *Horæ Ferales*, pl. xv. p. 190.

[b] *Ibid.* pl. xvi. p. 190.

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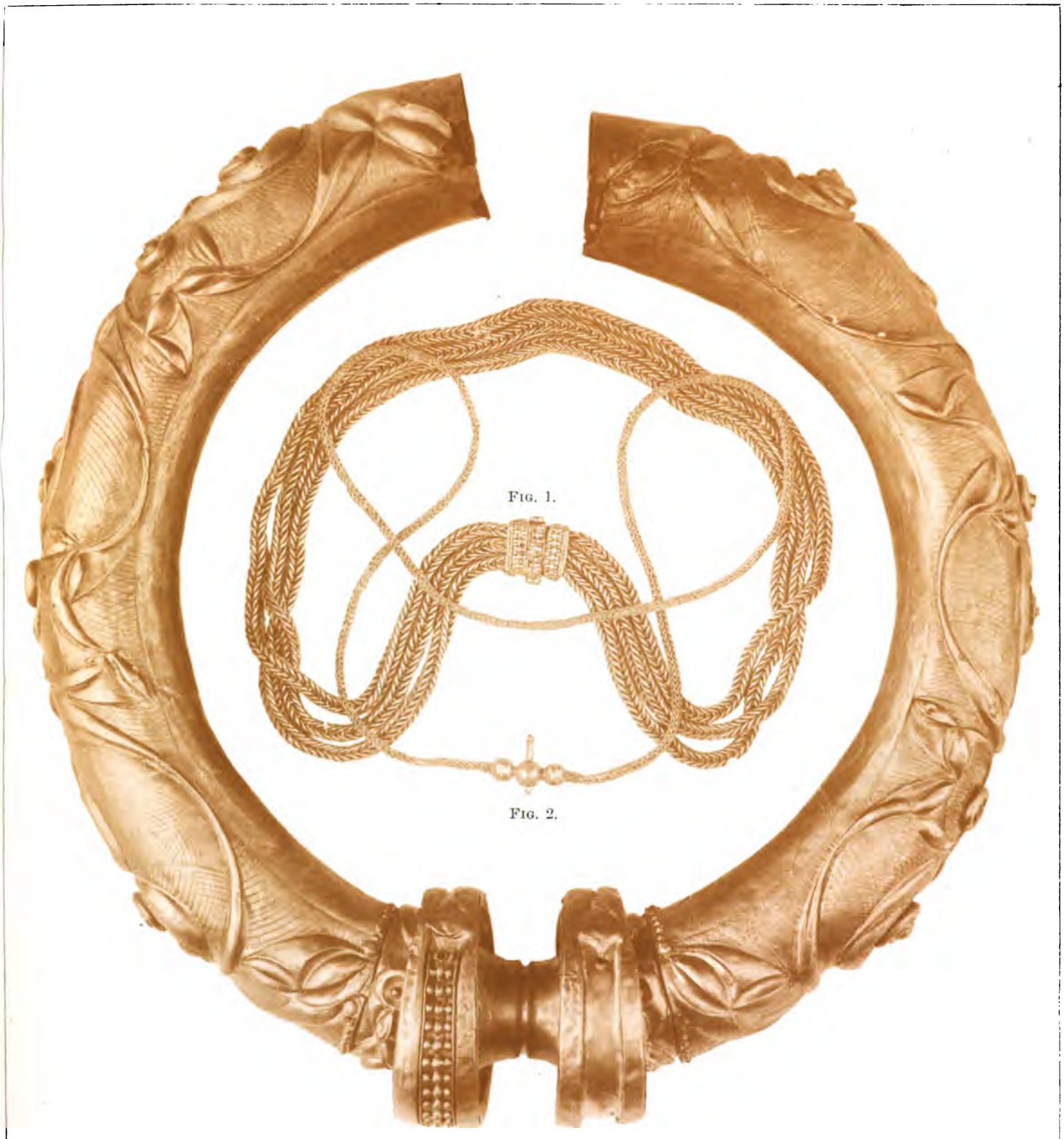

Fig. 1.

Fig. 2.

Fig. 3.

GOLD COLLAR AND CHAINS FOUND IN IRELAND.
(FULL SIZE.)

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helmet found in the Thames at Waterloo Bridge and now in the British Museum. Among Irish antiquities the same procedure is found applied to the well-known class of bronze disks,[a] and the fine *repoussé* reliefs of these plates suggests more than one analogy with those of the gold collar.

The character of the relief and the design, which is of purely geometrical character, also recalls that of certain Celtic armlets mostly found in Scotland,[b] though one specimen was found near Newry, in Ireland.[c] The finest period of these overlaps the Roman occupation of Southern Britain, since a Roman *patella* was found in company with one of them at Stanhope, in Peebleshire.[d] The Æsica brooch, which may be claimed as a Caledonian fabric[e] representing a somewhat advanced stage of a similar class of design, apparently dates from the last half of the second century of our era.

There is then good warrant for believing that a bold pure style of Late-Celtic art was prolonged awhile among the Celtic population of the North and West of our islands after the Roman Conquest of Southern Britain. In other words the stage of culture which, shortly after the beginning of our era, is cut short over a large part of England by the rapid increase of Roman influence, culminating in actual conquest, finds its continuous development in Caledonia and Ireland.

On the margin near the front end of the collar before us are to be noted certain cupped bosses, containing in the centre of the cup a small globule. This latter feature recalls the similar cupped bosses with a central bead of red enamel seen on the remarkable bronze ornament in the Petrie Collection of the Museum of the Royal Irish Academy, and regarded by Miss Margaret Stokes as part of a radiated crown.[f] Radiated crowns characterize the coins of Roman emperors struck in Gaul and Britain during the last half of the third century of our era; a fact which, as Miss Stokes has observed, gives a clue to the date of the crown. The incipient use of enamel, which in Ireland appears later than in Britain, also argues a comparatively late date. On the other hand the somewhat more advanced and attenuated character of the decorative designs on this ornament tends to show that it belongs to a rather later period than the gold collar.

[a] Compare an example in the British Museum.

[b] See especially J. Alexander Smith, *Proceedings of the Society of Antiquaries of Scotland*, xv. 316 *seqq.*

[c] *Op. cit.* xv. 362, fig. 31.

[d] *Op. cit.* xv. 318, fig. 1.

[e] See *ante*, pp. 190 *seqq.*

[f] *Archaeologia*, xlvii. pl. xxii. and p. 473 *seqq.*; *Transactions of the Royal Irish Academy*, xxx. pl. xix. 2, and p. 290.

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The free and noble decorative style of the collar before us, fitting on as it does to the latest style of Pre-Roman Britain, and representing its independent outgrowth, can best be referred to this immediately ensuing period, and, roughly speaking, to the first century of our era. The tendency of all Late-Celtic art was to reduce the naturalistic motives borrowed by it from the classical world to geometrical schemes. In its earliest phase, mostly represented by Continental finds, the borrowed elements are not yet perfectly assimilated, and Greek motives such as the confronted monsters the sphinxes or palmettes are often still distinguishable. But the decorative design of the present torque is of a purely geometrical character. There is no trace here either of animal or spray, and the Celtic spirit has triumphed in a beautiful abstraction of curving lines. This in itself is an evidence of a comparatively late date.

Yet the whole history of Late-Celtic art instructs us that this geometrical scheme, elaborate as it is, was originally based on ornaments of a naturalistic kind. The elements out of which it was evolved are in fact clearly shown by another collar, the tubular construction of which shows that it belongs to the same family as the Irish example, though to an earlier generation. I refer to the hollow gold collar, containing a core of hard cement with a central iron hoop, already referred to, found at Frasnes, in Belgium, together with uninscribed coins of ancient Belgic type dating from about 80 B.C.[a] In this case bull's heads are seen immediately beneath the terminal disks, and the raised S-like sprays which also adorn the collar may be taken to represent degenerations of the Greek palmette ornament which is here absorbed in a very favourite geometrical figure of Gaulish art. On an earlier gold bracelet in the museum at Breslau, which has an important bearing on the evolution of this class of Celtic collars, the palmette which springs from the terminal disks is seen in a state of transition, half decomposed into geometrical coils. A further transitional stage is illustrated by a torque from the Waldalgesheim find.

If in the other direction we turn from the Frasnes collar to the Irish example before us we see that the last naturalistic traces, exemplified in the former case by the the bull's head, have entirely vanished, while the spiral curves have attained a free and much more elaborate development, further removed from the mere balanced S's of the earlier Gaulish tradition. In other words the Irish collar seems to belong to a distinctly later period than that from the Belgian hoard.

[a] J. Evans, "On some gold ornaments and Gaulish coins found together at Frasnes in Belgium," *Numismatic Chronicle*, N.S iv. pl. v. p. 96 *seqq.*

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A certain analogy to the newly-discovered collar is presented by a tubular gold collar in the collection of the Royal Irish Academy reproduced in fig. 8. Some of the decorative scrolls on the hoop terminating in a coil distinctly resemble those of the Ulster example, and though the *repoussé* work cannot compare with it for boldness and beauty of design we have here a distinct indication that both were made in Ireland. Whether the curious interlacing coils which form the section opposite the opening throw any light on the missing part of the present specimen must remain a moot point.

Fig. 8. Gold collar in the collection of the Royal Irish Academy. (½ linear.)

General Conclusions.

The great variety in character of the objects, which, according to the account given, were found together in the present hoard, might suggest the conclusion either that it contained relics of different periods or that the treasure itself had been collected from more than one source by its original modern possessor. With regard to the last possibility Mr. Robert Day has made most careful investigations and has completely satisfied himself as to the *bonâ fide* character of the find, and that all the objects were brought to light at the same place and at the same time. The farmer on whose land the find was made, and with whom he is personally acquainted, is a shrewd hard-headed Presbyterian upon whose word Mr. Day could thoroughly rely, and who was most precise about the facts. The fine brown clay with which all the objects were more or less covered also bore out his statement as to their place of discovery.

But, if in view of this evidence we must regard the objects as all belonging to one hoard, is it possible that the hoard itself contains objects of different periods? I must confess that on first examining them this possibility occurred to me. The hoard itself is clearly divided into three groups, each formed of a

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different alloy of gold; the boat and bowl are of pale gold, the chains of gold of a somewhat dull hue, the collar and twisted rings of bright pure metal.

It has been suggested, indeed, in explanation of the deposit that we have here the hoard of some Viking who had plundered earlier Celtic graves. This theory has certainly the charm of romance; it bears, however, an unfortunate resemblance to that started on the first discovery of the Mycenæan treasures. It was seen that the decoration upon some of the relics recalled certain Celtic motives, and the theory was accordingly put forward that the graves were those of Gaulish invaders of Greece who had robbed pre-historic tombs and buried with their dead chieftains a mixed assortment of objects belonging to widely different ages.

But it is now known that the contents of the Mycenæan tombs, with the exception of a few objects of foreign fabric, were the work of the same race and that all belonged to the same period, namely the pre-historic age of Greece. It must be said at once that the balance of probability is very largely against any explanation of an ancient treasure which involves such far-fetched hypotheses. Unless it can first be proved that the objects from the Irish hoard belonged to different periods, such a theory is at least premature.

The detailed examination of the relics found has led me to the conclusion that there is at least no necessity for believing that they were the work of different ages. The rude character of the boat and bowl may well be explained by the analogy already invoked of votive objects manufactured in modern times. The jewelry found in tombs and made specially for the use of the departed is often of paler gold and of flimsy fabric when compared with other objects, exhumed from the same grave, which had been the property of the deceased in his lifetime. The same law may well hold good in the case of a votive deposit, such as this appears to have been, buried in honour of a god.

There is no reason why the eighteen-oared vessel here represented should be of Scandinavian origin or belong to the Viking period. The reproduction is indeed too rude to supply very definite evidence as to details; so far as it goes, however, it tends to show considerable divergence from Scandinavian models. The great proportional width of our vessel recalls rather the primitive coracles and currachs than the slender proportions of Northern boats of the same calibre. The rowlocks here are moveable rings, not the fixed horn-like prongs such as are found in the Nydam boat and still survive in the river-craft of Norway and Finland. The oars and rudder have the same general outline, but primitive Irish oars still exist of much the same form, and an elongated example

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of considerable antiquity with a straight end answering to one of the types of oar represented in the present boat has already been figured above.

The early maritime intercourse not only between Ireland and Britain, but with the Iberic coasts and Scandinavia, which goes back well into the Bronze Age, shows that the art of navigation was well advanced in these islands at a very early period. In Cæsar's time the Veneti of the opposite coast of Gaul had an ocean-going fleet, and already relied on sails in place of oars. The apparent indication that the vessel of which we have the miniature reproduction had hide-covered sides is, as already shown,[a] of special importance in connection with a form of sailing-vessel in use among the ancient Britons, who also possessed ocean-going ships, and were able, indeed, on occasion, to detach a Channel Squadron to the aid of their hard-pressed kinsmen in Western Gaul. That we have here a ship with mast and yards points rather to early Celtic usage than to that of the Norsemen, who, accustomed to fiord navigation and the more confined waters of the Baltic, trusted rather to oars than sails.

That the gold chains were made out of Ireland is probable enough, but abundant evidence has been brought forward to show that during the first two centuries before and after our era fine chains of this character were a Celtic speciality. It is possible that the chains in question were made in Britain; the peculiar form of fastening has indeed been compared with that of Caledonian bracelets, just as the three chains socketed one above the other in a flat terminal receptacle recalls the triple-chained collar with similar terminations found with the Æsica brooches. On the other hand the close correspondence of the fastening with that of Alexandrian jewels of the latest Ptolemaic and early Roman period makes it not improbable that we have here examples of objects imported from a Greco-Egyptian source about the beginning of our era. As far as I am aware no fine chains of this character have been found in deposits of the Viking age.

Of the remaining gold ornaments the twisted gold torques wound round with twisted wire undoubtedly recalled certain Scandinavian types and others of the Viking period found at Douglas in the Isle of Man. But it has been shown that the type is also Celtic and the form of the catch, moreover, agrees better with that of early Gaulish torques than with the later Scandinavian examples.

There is at least no question as to the indigenous Celtic character of the most important relic contained in the Ulster hoard. The hollow gold collar, with its bold *repoussé* designs, is undoubtedly an ancient Irish fabric, and is at the same

[a] See above, p. 393.

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time the finest example existing of this class of gold-work. On grounds of style and from certain details of ornament it has been referred above to the first century of our era. Its peculiar method of locking indeed closely recalls that of the "Tolosan" gold torques of a century earlier, a circumstance which makes it improbable that the Ulster collar comes down to a much later date.

But, as has been already demonstrated, there is nothing inconsistent between this approximate chronology and the indications of date supplied by other objects of the hoard, such as the fine chains.

The conclusion then to which we are led by these various considerations is that the treasure was, as the recorded circumstances of the find indicate, deposited at the same place and time, probably in the first century of our era. The custom of making votive deposits was very widespread in the Early Iron Age, and in the Northern countries such hoards were often buried on the borders of lakes and pools, or actually beneath their waters. In the present case the deposit was made close to the sea-shore, on a rocky part of the coast liable to shipwrecks, and from the votive ship and its furniture, there can be little doubt that it was a thank-offering dedicated by some ancient Irish sea-king, who had escaped from the perils of the waves, to a marine divinity. This was perhaps the Celtic Neptune, Nuada Necht, the British Nuđ or Nodens, whose name, in the later form of Lûđ, is connected with the port of London, and still survives in Ludgate Hill.[a] The Temple of Nodens at Lydney, which also preserves his name, has produced representations of Tritons and sea-monsters, and the God himself in a chariot drawn by four horses.[b]

[a] *See* J. Rhys, *Lectures on Celtic Heathendom*, 125 *seqq.* London itself was the Welsh Caer Lûđ.

[b] *See* W. H. Bathurst and C. W. King, *Roman Antiquities at Lydney Park, Gloucestershire.*

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XVIII.—*Excavations on the site of the Roman city at Silchester, Hants, in* 1896. *By* W. H. St. John Hope, *Esq.*, *M.A.*

Read April 8th, 1897.

The report which I have the honour of submitting to the Society, on behalf of the Executive Committee of the Silchester Excavation Fund, of the discoveries made during the year 1896, is also the record of the systematic excavation of the site by the Committee for the seventh successive season.

The excavations were resumed on 1st May under the direction of Mr. Herbert Jones, to whom we again owe a deep debt of gratitude for giving his time and services so freely for the three months before harvest during which the work was carried on. The operations after harvest were chiefly carried out by Mr. Mill Stephenson, and brought to an end on the 26th of October.

The area selected for excavation is on the west side of the city, immediately to the south of the two *insulæ*, XIII. and XIV., which were examined in 1895. It also contains two *insulæ*, which we have numbered XV. and XVI. They extend eastward from the city wall on the west as far as *Insula* III., which was excavated in 1891, and contain in all about $3\frac{1}{2}$ acres.

Although the season's work did not include the discovery of any buildings of such importance as the two great houses found in 1895 in *Insula* XIV., the result was on the whole quite satisfactory, and, as usual, ended in some curious and totally unexpected discoveries.

It will be convenient to begin with an account of *Insula* XV.

This was bounded by streets on the north, east, and south sides, and on the west by the city wall and its bank. It measured about 300 feet from west to east, reckoning from the base of the bank, and about 260 feet from north to south; we did not however find any traces of a definite boundary along the southern margin.

As will be seen from the plan (Plate XXIII.), the excavations brought to light within the *insula* the foundations of two houses and four blocks of buildings.

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The first of these, House No. 1, was situated at the north-west corner of the *insula*. It was 81 feet long and 34 feet wide, and stood nearly due north and south, making a small angle with the street on which its northern end abutted. The house was of the corridor type, and contained on the ground floor a row of four large chambers (1-4), each about 20 feet in breadth,[a] with a connecting corridor 7 feet wide on the eastern side. At the north-east corner of the building were uncovered the gravel foundations of some other walls belonging to it. Nothing definite could be made out from them, but it is probable that they were connected with a staircase to an upper story. The remains of the building had been so ruined that no traces of the floors were left, and the lines of the walls were mostly indicated by the gravel foundations only. On the west side, however, and in part along the division walls, the rough ironstone blocks of which the footings were composed remained in place.

At the north end, just outside the corridor, was found a large pit 9 feet in diameter, but it did not yield anything of special interest.

A little further to the east, and just clear of the house, was a fragment of one of the long flues of which so many examples have been found in this quarter of the city.

About 50 feet due south of House No. 1 is a small isolated rectangular building, Block I, measuring internally 12 feet from north to south, and about 14 feet from east to west.[b] Similar detached chambers, it will be remembered, have been met with in other *insulæ* on this side of the city.

A little to the east of Block I. the excavations disclosed the gravel foundations of a large house, extending from the middle of the *insula* southwards nearly as far as the street there. This House No. 2 resembles in plan House No. 3 in *Insula* IX., and House No. 3 in *Insula* VII. The main part of it, which was 98 feet long and 41 feet broad, stood nearly due north and south, but formed a small angle with the line of the street. It consisted of a row of four chambers (1, 2, 3, and 5) and a cross passage (4), placed between two corridors (6, 6 and 7, 7). The western corridor (6), which was also the outer, had, as usual, been subdivided by cross walls. The eastern corridor (7) was 7 feet 3 inches wide. At its southern end it returned eastwards along the street front for 12 feet, with a diminished width of 5 feet 9 inches, as far as a rectangular chamber (8), 13 feet 9 inches square, which

[a] These chambers were of the following dimensions: (1) 16 feet 3 inches by 19 feet 6 inches; (2) 14 feet by 20 feet; (3) 16 feet 9 inches by 20 feet 3 inches; (4) 20 feet 8 inches by 20 feet 4 inches. The foundations averaged 2 feet in thickness.

[b] The south wall was 19½ inches and the west wall 21½ inches thick; of the other walls only the gravel foundation remained.

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terminated the house in that direction. Similar chambers in a like situation occur in the two houses whose similarity in plan to that under notice has already been mentioned, also in House No. 2, *Insula* XIV., and House No. 1, *Insula* VIII. In this instance it no doubt formed a vestibule, and, like most of the parallel examples, it had on each side a projecting foundation towards the street, probably for attached columns supporting an entablature and pediment. The entrance to the house would thus be one of some architectural pretensions. About 34 feet from the southern end of the eastern corridor were traces of the foundation of a cross wall. A few feet further north there projected eastwards from the corridor a chamber (9) 15 feet square; it perhaps served as a *tablinum*.[a] From this apartment the corridor wall extended northwards for 35 feet, and then abruptly ceased.

Beyond this point a considerable wing had evidently been added to the house. It stood east and west, and measured 57 feet in length by 41 feet in breadth from north to south. So far as it could be traced, for only its gravel foundations were left, it contained two large apartments (11 and 12) of unequal size on the north, with a broad corridor-like room (10) extending their whole length on the south. Such very large rooms, there can be little doubt, were subdivided by partitions, and used as store-rooms, or for the accommodation of the slaves.

Close to the south-east angle of this wing were the remains of one of the circular hearths of which so many have been uncovered in this quarter of the city.

As in House No. 1, all the floors in this building had been utterly destroyed; a few coarse red *tesseræ*, found at the southern end of the eastern corridor and in a pit beneath it, being the only indication how any portion was paved.[b]

To the east of House No. 2 and abutting on the street dividing *Insulæ* XV. and XVI. was a building we have called Block II. It extended inwards at right angles from the street for 57 feet, and had a total breadth of 31½ feet. It was situated about 38 feet north of the supposed southern margin of the *insula*. This block was divided longitudinally by a wall into two unequal parts: one 18 feet wide, the other only 7 feet. The former was perhaps a barn, and the latter a pentise; but about 14 feet seems to have been cut off its western end by a

[a] A chamber of like character and in a similar position to this was found in House No. 1, *Insula* VIII.

[b] The dimensions of the various divisions of this house are as follows: (1) 34 feet 6 inches by 17 feet 6 inches; (2) 13 feet 3 inches by 17 feet 6 inches; (3) 15 feet 2 inches by 17 feet 6 inches; (4) 6 feet by 17 feet; (5) 17 feet by 17 feet 6 inches; (8) 14 feet by 13 feet 6 inches; (9) 14 feet 6 inches by 14 feet 9 inches; (10) 15 feet 6 inches by 54 feet; (11) 19 feet 6 inches by 31 feet 6 inches; (12) 19 feet 3 inches by 20 feet.

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cross wall to form a small chamber. The walls of the building varied in thickness from 2 feet to 2 feet 3 inches.

Just outside the south-west angle was uncovered the fairly perfect base of a long flue.

To the north of Block II. and partly overlaid by its north-west angle, were the foundations of an older building, lying at a somewhat lower level, as is commonly the case with all the earlier edifices at *Calleva*. This structure, Block III., formed a considerable angle with the street, its general direction being nearly north-east and south-west. It was 49 feet long by 26 feet wide, and consisted of four chambers (1-4), with an external corridor, about 6 feet wide, along the east side, which returned across the south end with an increased width of 9 feet. The west wall was 1 foot 9 inches thick and built of flintwork of poor character. The other main walls were only 12 or 15 inches in thickness, and were chiefly constructed of tiles. The subdivisions were also built for the most part of pieces of tile, and were from 9 inches to 1 foot thick. The light construction of these foundations is strongly suggestive of the building having been almost wholly, if not entirely, constructed of timber, with subdivisions of lath and plaster or stud-work. The four chambers were all connected by doorways, and the largest or southernmost division (1) had doorways with stone sills opening into the corridor on its east and south sides. A break in the east wall of Chamber 3 may represent a similar doorway there from the corridor, and a like break in the north wall of Chamber 4 probably marks the entrance to the building from without. The arrangement of this structure, it will be seen, is not unlike that of Block VI., *Insula* X. The whole of its floors appear to have been of gravel only.[a]

A few feet to the north of Block III. are the gravel foundations of Block IV. This was a nearly square building, measuring internally about 16 feet by 18½ feet, but its sides were all unequal, as was the thickness of its walls.[b] The north wall was prolonged eastwards in the direction of the street there for 22 feet, but stopped abruptly over the centre of a pit just before reaching it. Possibly this block and its attached wall formed part of a building of which no other traces are left. About 25 feet to the south were some remains of the base of a flue; this had, however, been laid over an old filled-up rubbish pit, into which it

[a] The following are the dimensions of the divisions of this building: (1) 11 feet 6 inches by 15 feet 6 inches; (2) 9 feet 8 inches by 10 feet; (3) 9 feet 8 inches by 4 feet 10½ inches; (4) 14 feet 4 inches by 15 feet 8 inches.

[b] Its dimensions were: north side, 16 feet 5 inches; east side, 18 feet 3 inches; south side, 15 feet 9 inches; west side, 19 feet. The north wall was 2 feet 3 inches thick; the east, 1 foot 9 inches; the south and west, 2 feet.

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had eventually, for the most part, subsided, and so been destroyed. The only other traces of structures in the *insula* occurred at the north-east angle, where a piece of tiling in place and some shattered remains near appeared to indicate the site of another hearth.

From the nature of the buildings and their accessories found in *Insula* XV. there can be no doubt that it formed part of the extensive area in the western division of the city, which appears to have been devoted to dye-works. As in *Insulæ* IX. X. XI. XII. and XIII. there are the remains of long flues and circular hearths, the same detached square constructions, and other edifices of which examples have been found in the *insulæ* mentioned. A reference to the plan (Plate XXIII.) will also show that a considerable area in the northern half of the *insula* was not only free from all traces of buildings, etc. but it did not contain any wells or pits. It is therefore not improbable that this formed a bleaching ground, like the corresponding open areas in the other *insulæ* noted.

The number of pits found in *Insula* XV. was comparatively small, as was also the case in the other *insulæ* devoted to dyeing. We actually met with twenty-five, but fully half of these were under walls or within buildings. They were for the most part shallow, and contained little or nothing of interest.

On the eastern margin, not far from Block IV., were two wells. The northern-most was 18 feet deep, and lined with flints, which rested at the bottom upon a framed wooden construction, of a character similar to those found at Silchester in previous years. In the present example the framing was 3 feet 6 inches in depth and 2 feet 6 inches square internally. The strata through which the well was sunk were as follows:

Vegetable mould . . .	4 feet
Gravel	9 feet
Sand	5 feet
	18 feet

The bottom of the well was clay.

The second well was 50 feet to the south of the other, and was 17 feet deep, with a clay bottom. It was sunk through similar strata, but with the following variations in thickness:

Vegetable mould . . .	5 feet
Gravel	2 feet
Sand	10 feet
	17 feet

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The flint lining of this well had also rested upon a wooden construction, but in this case it took the form of a tub. A similar tub, it may be remembered, was found in 1894 in a well in House No. 3, *Insula* IX.,[a] and two tubs, one above the other, in a deep well in *Insula* XIV. in 1895.[b] We therefore decided that the next example which occurred should be extracted, if possible, and preserved with the other Silchester relics as a Romano-British tub. The desired opportunity arose in the present instance, and under the superintendence of Mr. Stephenson and Mr. Davis the tub, after some trouble, was successfully brought to the surface, and now rests before you. It was probably originally 5 feet deep, but through the decay of the upper ends of the staves is now reduced to 4 feet. The internal diameter at the base is 3 feet. The staves, which are of fir, are twenty-six in number, and vary from 4 to 5 inches in breadth, but gradually diminished in width from the centre to the ends. They were banded outside at intervals of 9 inches with wooden hoops about 2 inches wide, disposed in pairs, but these were in too decayed a state to allow of their being preserved. In several places there are branded on the staves the letters HERM, the meaning of which is uncertain. At a height of 19 inches from the lower edge four of the staves are pierced with a round hole $\frac{3}{4}$ inch in diameter, disposed at equal distances apart. The object of these is not very obvious. The tub rested on a massive frame formed of four pieces of oak, which were also brought with it to the surface.

Such tubs as these found at Silchester are clearly analogous to the "drum curbs" still used in this and other countries when sinking wells through loose strata, the object being of course to prevent danger to the well-sinker through the falling in of the sides. In the Isle of Wight for instance,[c] where they are largely used, these "well curbs," as they are there called, are wooden cylinders with an inside rib round the top and bottom, and, if the curb is large, round the middle also. They are generally of elm, and of course vary in size with the diameter of the well and the nature of the soil. The well is first excavated down to the beginning of the loose strata, and then the curb is lowered into it. Courses of brickwork tightly wedged in a circle are next built round on the top rib of the curb, and so continued up to the top of the well. The earth is then alternately

[a] *Archaeologia*, liv. 447.

[b] In our account of the finding of these, at p. 245 *ante*, the well with a tub found in *Insula* IX. is wrongly described as being in House No. 1 instead of House No. 3.

[c] I am indebted to Mr. A. H. Estcourt, Deputy Governor of the Isle of Wight, for this information, and to Mr. Henry Laver, F.S.A., for a similar account of well-sinking as practised in Essex. I have also to thank my friend Lieut.-Col. Beamish, R.E., F.S.A., for other information on the subject.

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excavated within and from under the edge of the curb, which sinks down each time with the weight of the brickwork. This is of course constantly built up to the top again. The process is continued either until water is reached, or until the amount of friction on the brick cylinder becomes so great as to stop the descent of it, when the sinking of the well has to be continued on another plan. The brickwork of course forms the steining of the well, and the curb remains at the bottom when all is finished.

In Essex, where a similar method is practised, the curb is a stout ring of wood on which the brickwork is built up. To it are usually attached by iron hooks a number of chains, generally four, which are brought up to the top of the brickwork and there attached to another ring of wood and tightened by screws. The bricks are thus held in place as they sink down. The chains are then slackened, the ring removed, and the brickwork continued up to the surface. The process is then repeated for another section, and so on until the well is completed.

It is possible that the tubs or curbs in the Silchester wells were sunk in some such manner as that just described, though the form of the tubs is against it. It is, moreover, not easy to see how a steining of irregularly shaped flints instead of symmetrically arranged bricks could be carried down by its own weight through such treacherous material as loose or wet gravel, nor how the cylindrical arrangement of the flints could meanwhile be maintained. The fact of two tubs having sometimes been used shows that difficulties existed at *Calleva* in sinking wells through the gravel. Possibly the four holes in the tub before us may have been for attaching chains during the construction of the well, after the plan used in Essex.

We must now pass to the examination of *Insula* XVI. This was bounded by streets on all four sides, and measured 275 feet from west to east, and about 260 feet from north to south. In addition to one isolated square building, it contained three houses, as well as traces of other constructions of an indeterminate character.

A large proportion of the north-west quarter of the *insula* was occupied by House No. 1. It stood at the angle of the *insula*, and had a principal frontage along its northern margin of 132 feet. The house was of the courtyard type, with wings extending southwards from either end of the main structure; the limits of these are however uncertain.

In some respects the plan differs from that of any other house yet uncovered at *Calleva*, and as the walls are thinner than usual they possibly suggest an earlier date for this than the dwellings already investigated.

It will be seen from the plan (Plate XXIII.) that House No. 1, although bordering upon the street, is not parallel with its general direction, but is deflected

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southwards so as to recede from the street towards its eastern end.[a] Near this end was the principal entrance to the mansion. As in other examples within the city, the doorway has on either side a foundation projecting into the street, in this case as much as 5 feet. These are 11½ feet apart, and no doubt supported a shallow porch. The doorway gave access to a lobby (1), which opened into the western end of a large hall (2), 28½ feet long and 17 feet wide. The entrance from the lobby was 9 feet 6 inches wide, and had opposite to it a like opening of almost equal width which communicated with the interior of the mansion. Against the south wall of the hall, near its eastern end, were found the remains of a tile construction. On the eastern side of the hall was an external appendage (3), about 9 feet in width, which returned northward as far as the entrance lobby, and for 19 feet southwards to a corresponding cross-wall there. This somewhat unusual arrangement suggests the pillared *atrium* of the ordinary classical house; and the inner walls were perhaps merely dwarf walls supporting wooden or stone columns. The tile construction mentioned may in that case indicate the position of a *lararium*.

The southern doorway of the hall opened into a corridor or gallery (4) 8 feet 9 inches wide, and about 98 feet long, on the north side of which were the principal rooms of the mansion. These formed a range extending westwards from the hall, with which they corresponded in width. The first chamber (5) possibly had a wide opening toward the hall (2) on the east side, and formed the *tablinum* of the house. Adjoining it was another good room (6), and next to that a third (7). Then came a passage (8) through the range, and beyond that two other chambers (9 and 10). In the northern end of the last chamber (10) was uncovered the wreck of a circular furnace, near which was a patch of rough tiling. By the side of the furnace, set in the floor, was part of a large earthen vessel which, from its burnt and whitened appearance, had evidently been a receptacle for hot ashes. It is not improbable that this apartment was the kitchen of the establishment. Its position at the end of the range was a convenient one for bringing in stores from the street, which it adjoined. The passage (8) from the corridor (4) led northwards through the range to another corridor, which lined the street as far as the entrance lobby. It was about 8 feet wide, but had been converted, by the insertion of cross walls, into a series of three long and narrow apartments (11, 12, 13). In the middle one of these (12) were traces of a floor of *opus signinum*.

[a] In this respect it resembles the original plan of House No. 1, *Insula* I. with which, indeed, it may be contemporary.

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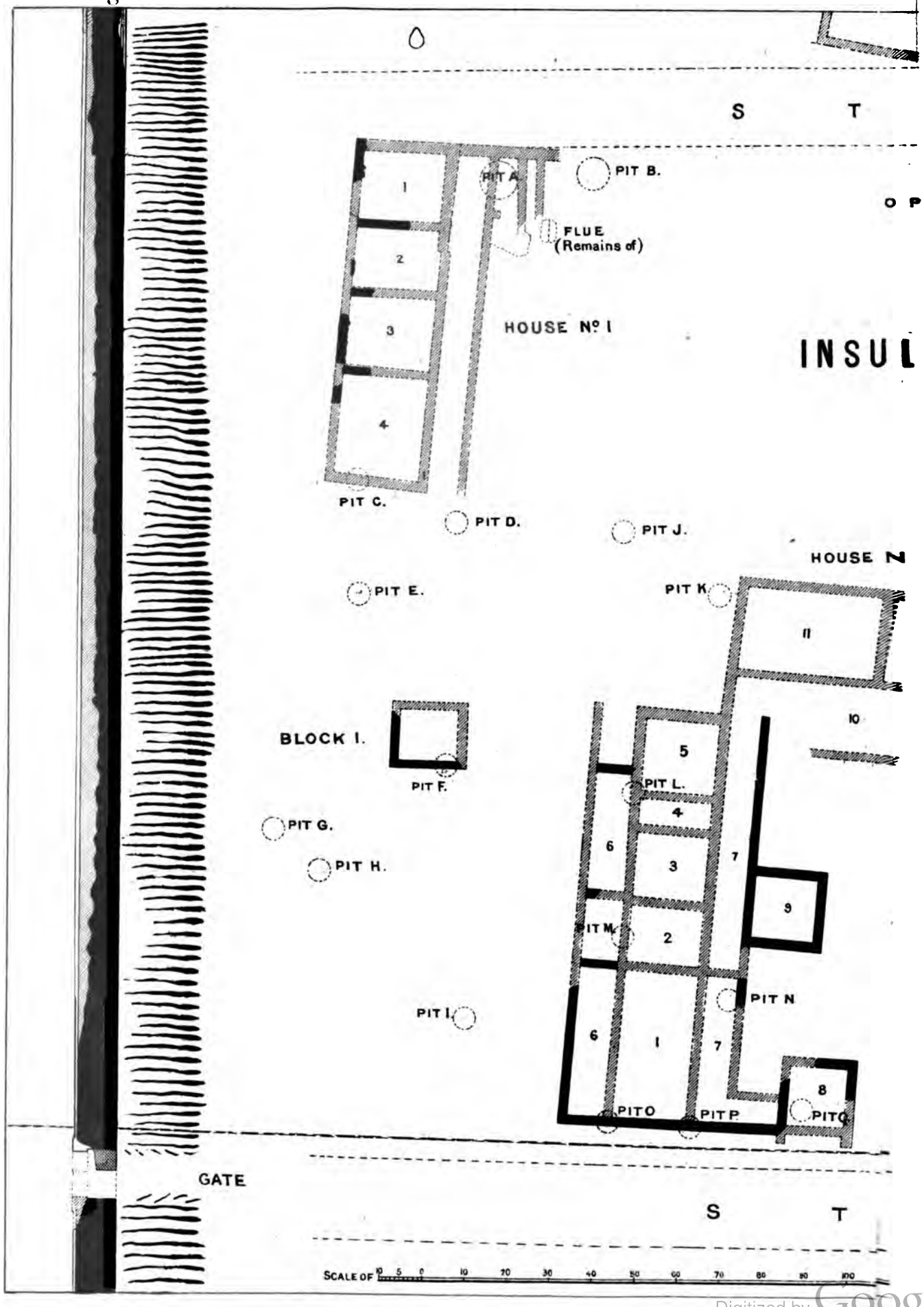

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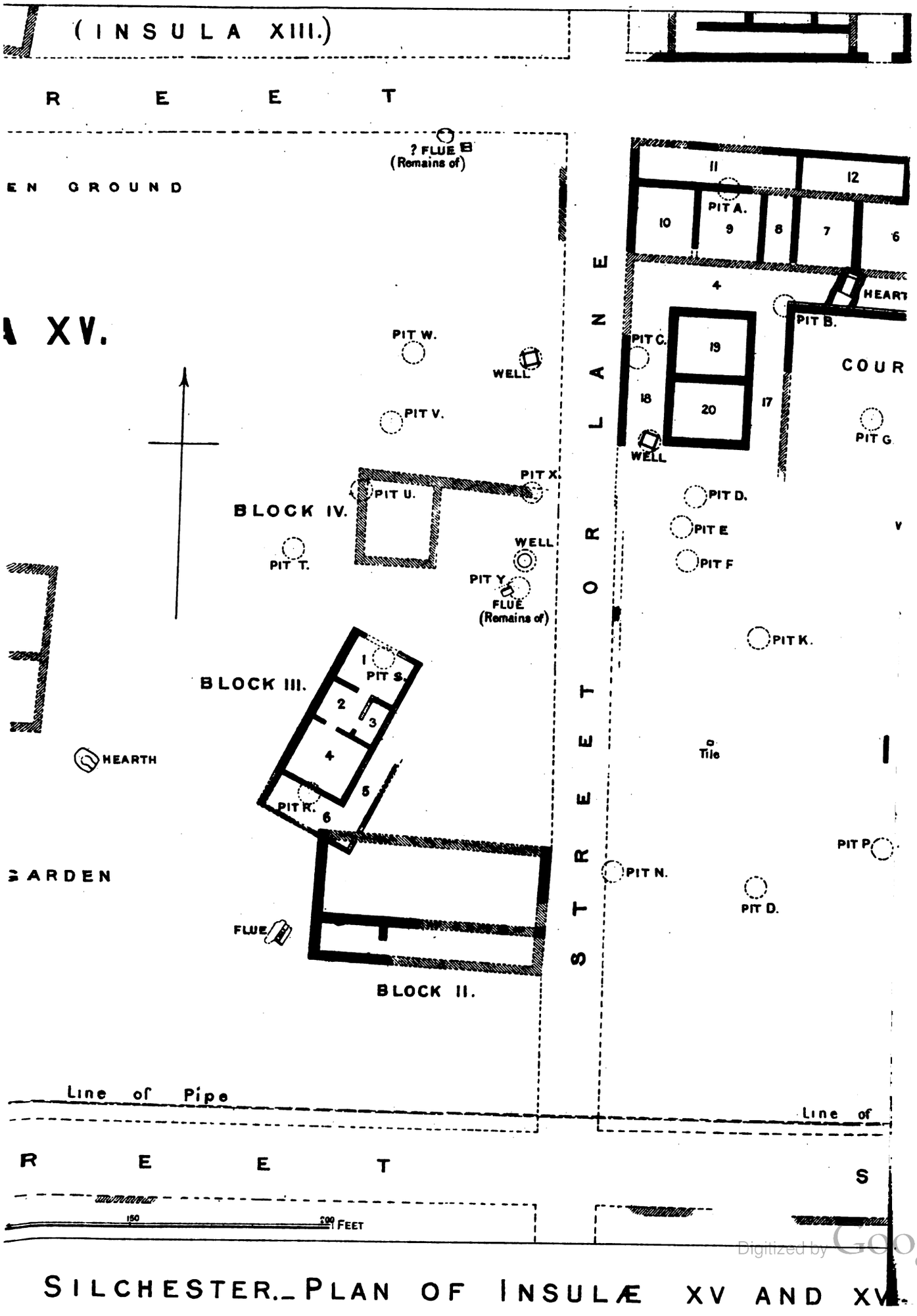

SILCHESTER.—PLAN OF INSULÆ XV AND XV

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At the eastern end of the main corridor (4), and opposite the doorway from the hall, was the entrance to the corridor of the eastern wing of the house. This corridor (14) was 8 feet 2 inches wide, and extended southwards for at least 45 feet, but beyond that point it could not be traced. The rooms to which it gave access were certainly two in number (15 and 16), and there was evidently a cross passage, or a return of the corridor beyond, but the indications of this were uncertain. There were no traces of any corridor or other appendage on the east side of this wing.

The western wing, at the opposite end of the mansion, was arranged in a somewhat unusual manner. It is flanked on each side by a return southward (17 and 18) from the main corridor, which widened out here to nearly 11 feet, and consists of an isolated block, about 34 feet long and 20 feet wide, divided into two chambers (19 and 20) of equal size. The corridors probably united in a cross corridor outside the southern end, but of this there were no indications except the continuation of the corridors for some little way beyond the end of the block.[a]

Close to the south-west corner of the block, and within the corridor, we found a well 16 feet deep, with a timber framing 3 feet 4 inches high and about 3 feet square within resting on the clay bottom. The shaft originally had a circular lining of flints. The only objects of interest found in the well were the fragments of a wooden bucket with iron hoops and handle, and some portions of leather shoes.

As will be seen from the plan (Plate XXIII.), a number of pits were met with immediately to the south of the house, but they yielded nothing of importance. On the southern edge of the courtyard, besides two pits, another well was discovered. This was 20 feet deep, and had at the bottom a timber framing 3 feet 6 inches deep and 3 feet square within to carry the flint steining.

Before leaving House No. 1, mention must be made of an interesting discovery in the main corridor (4). About the middle of its length, and below what must have been the level of its pavement, were uncovered the tolerably perfect remains of a hearth or furnace of a type different from any yet found at Silchester. It

[a] The areas of the different parts of the house were as follows: (1) 7 feet 6 inches by 11 feet 5 inches; (2) 17 feet 1 inch by 28 feet 8 inches; (5—10) a uniform width of 16 feet 8 inches from north to south, and a width east and west, of (5) 14 feet 8 inches, (6) 16 feet, (7) 13 feet 4 inches, (8) 6 feet 6 inches, (9) 14 feet 8 inches, (10) 14 feet 1 inch; (11—13) were 8 feet 3 inches wide and 38 feet 7 inches, 24 feet 9 inches, and 19 feet 8 inches long, respectively; (15) 13 feet 4 inches by 16 feet 4 inches; (16) 22 feet 5 inches by 16 feet 9 inches; (19) 14 feet 2 inches by 17 feet 2 inches; (20) 13 feet 8 inches by 17 feet 4 inches. The corridors (17) and (18) were 7 feet 6 inches and 9 feet 4 inches wide, respectively.

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extended obliquely across the corridor towards the wall dividing chambers 6 and 7, but was clearly of earlier date, for its southern end had been cut across and destroyed during the building of the house. It had apparently been sunk into the ground, and consisted of an outer and an inner division. The latter was 5 feet 3 inches long by 2 feet 8 inches wide, and had an end and side walls built of unusually thick pieces of tile, averaging $2\frac{1}{2}$ inches in thickness. Against the end wall, which was still standing to a height of 18 inches, was a shelf or ledge, 11 inches wide and $7\frac{1}{2}$ inches thick, built up of three layers of tiles, the front edges of which were burnt to whiteness by long-continued heat. The tile floor seems to have been subsequently raised 5 inches, and the ledge raised to correspond or to an even higher level. The outer walls of the structure, into which the tile-work was bonded, were of flint. They were continued southward to form the outer division of the furnace, which was $4\frac{1}{2}$ feet wide and at least 4 feet long, but it once extended further. There was nothing to show for what purpose or how the furnace had been used. It had, however, clearly not been used for any metallurgic process.

The south-west quarter of *Insula* XVI. was almost destitute alike of pits or traces of buildings. The few pits revealed by our trenches contained nothing beyond some fragments of pottery. The traces of buildings, if indeed they belonged to such, were of a very indefinite character. About the middle of the quarter was an irregular oval-shaped layer of hard gravel, which had every appearance of having once formed a floor, but nothing could be satisfactorily made out as to its limits or extent. It of course may have belonged to a wooden structure of some kind. Another deposit of the same character was met with some little distance towards the south-east. This was of more decided form, being roughly a parallelogram 11 feet long and 5 feet wide. Any structure that covered it must have been of wood, or some such light material.

Occupying almost the centre of the *insula*, and close to a pit which yielded some good pieces of pottery, was a third well. It was 23 feet deep, and had at the bottom the decayed remains of a wooden tub. In emptying out this well was found a fairly perfect bronze jug, $10\frac{1}{4}$ inches high, with a single handle terminating in a comic mask.

The north-east quarter of the *insula* contained two buildings. The smaller of these, Block I., stood near the angle of the *insula* and was almost square in plan, measuring 18 feet by 19 feet internally, with walls 2 feet thick. There was nothing to indicate its purpose or how it had been paved. Similar isolated buildings have been found in other *insulæ* within the city.

The larger building we have called House No. 2. It stood about midway

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between House No. 1 and the eastern side of the *insula*, and a few feet back from the street on the north, with which its axis formed an angle of 70 degrees.

This building was originally a house of the corridor type, having a range of chambers 88 feet long and 21 feet broad, with a corridor about 6 feet wide on the eastern side; but its northern end was first altered and then irregularly enlarged. A chamber was also apparently added at the southern extremity, thereby increasing the length to 102 feet. This southernmost chamber (1), as will be seen from the plan, is not overlapped by the corridor (9), and its north and south walls are not parallel. It had a pavement of coarse red *tesseræ*. The next chamber northwards (2) was floored in the same way; it was 21 feet long and 17 feet wide, and not improbably formed the *triclinium*. Next to it were two small apartments (3 and 4), the easternmost of which had a pavement of red *tesseræ*. Beyond them was another room (5) with a red mosaic pavement; it perhaps served as the *tablinum*. To the north of this chamber were two long and narrow apartments, side by side. The western one (6) had a floor of drab stone mosaic with occasional red *tesseræ*, as well as a patch of red mosaic against its outer wall. This may indicate the place of a doorway. The eastern apartment (7) was also paved with drab stone *tesseræ*, but underlying this were found the remains of a mosaic pavement of finer character, composed of a fretwork pattern of red *tesseræ* on a drab ground, with a narrow border of the same material and an exterior wider border of coarse red *tesseræ*. This apartment probably formed a passage from the *tablinum* (5) to the room on the north (8), as well as a vestibule to the latter from the corridor (9). The room at the north end (8) measured 18 feet by 16 feet, and was clearly the winter room of the house. Its pavement had been entirely destroyed to facilitate the removal of the large tiles and other useful building material from the hypocaust that lay beneath it.

This hypocaust was of the usual composite character, having a small central chamber with brick *pilæ*, from which the heat was conducted by passages through solid blocks of masonry to the flues in the walls. The *pilæ* were arranged in four rows of six each. Three of the rows were built up of square tiles, but in the fourth row all the tiles except the lowest one in each *pila* were circular. These are the first examples of circular *pilæ* that we have met with at Silchester.

The stokehole of the hypocaust was originally near the middle of the east wall, but it was afterwards built up, a new one made further north, and the blocks of masonry on that side rearranged.

The hypocaust had unfortunately been entirely destroyed in the south-east

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corner, and so we were unable to learn from the position of the flues what doorways there were in this part of the room.

The corridor of the house was paved throughout with ordinary red *tesseræ*, and its width, as already stated, was about 6 feet. How far it extended northwards is uncertain, owing to the alterations that have been made in that direction. These alterations appear to have consisted, first, in a small increase in the width of the corridor, as well as its extension northwards, to allow of the formation of a new furnace-chamber (10) in front of the new stokehole of the hypocaust. This enlarged portion of the corridor (11) was probably shut off from it and served as a wood store. At a still later period, the walls of this seem to have been partly taken down, and there was then built out, eastwards and northwards of the winter room, a large enclosure (13) 28½ feet long and 24 feet wide, with an extension or return of the corridor (14) increased to 8 feet in width along its southern wall. Part of this return seems to have been afterwards cut off by a partition to form a separate apartment. I have called the large addition an enclosure, because it is difficult to see what else it could have been; its large area, its comparatively thin walls, which are only 21 inches thick, and its awkward junction with the main building, all seem against its having been roofed over. Regarded merely as a yard, which it probably was, it would contain at the same time the stokehole of the hypocaust, the fuel to feed it, and such ashes as were periodically raked out of it.

It is highly probable from the plan of this house that it had an upper story, but it is not certain where the staircase was. It may have been at the south end of the corridor, but it is also possible that it was placed at the opposite end, perhaps on the south side of the added yard, where there are traces of walls not easily accounted for.

It is of course impossible for us now to say why the additions to the north end of the house were placed so eccentrically.

To the east of House No. 2, and close to the street there bounding the *insula*, was found another well. This was 3 feet in diameter, and neatly steined throughout with flints, but we were unable to reach its bottom owing to the constant inflow of water. Nothing was found in it but some very rotten bones.

The ten or twelve pits met with in this part of the *insula* yielded a number of minor antiquities and pieces of pottery.

Not far from the south-east corner of House No. 2, and about midway between it and House No. 3, was uncovered an irregular patch of gravel flooring, roughly oblong, about 11 feet long and half as wide. After this had been washed by the rain there appeared across its surface, lengthwise, a series of dark parallel, or nearly

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parallel, bands, 6 inches wide and about 18 inches apart. Examination showed that these were actually square-cut trenches, which, though now blocked up with earth, were such as might have been formed by filling with gravel the interspaces of a series of floor-joists that had afterwards decayed. Such a method of bedding the joists before laying the boards is an unusual one of making a wooden floor, but it is difficult to see in what other way the parallel trenches are to be accounted for. Nothing was found to indicate the precise extent or the use of the building that covered the floor.

House No. 3 resembles, in its general disposition of plan, that of House No. 2 in *Insula* XV., but it was on a somewhat smaller scale, and its remains were unfortunately too imperfect to enable its arrangement to be more than approximately measured.

The house stood nearly north and south, with its south end abutting on the street there bounding the *insula*, with which it formed a slight angle. It was about 88 feet distant from the street on the east side of the *insula*.

As the plan of its gravel foundations shows (Plate XXIII.), it consisted, first, of a row of four or five chambers (1—5), extending northwards from the street. The second of them (2) was only 6 feet wide, and may have contained a stair to an upper story. On the east side of the chambers was probably originally a corridor, but of this nothing was found except some indefinite traces of a cement floor. At the upper end of the row of chambers was a block at right angles to them, about 31 feet long and 18 feet wide, which had apparently been divided into two parts (6 and 7) by a wall placed somewhat obliquely, and pierced with a wide opening. South of this was a narrow passage (8) which communicated with a room (9) about 14 feet square. This had a floor of pink *opus signinum*, upon which had been laid a pavement of fine mosaic; of this, however, only a number of loose *tesseræ* were found.

Between the south end of this pavement and the main range of the house was a patch of burnt tiles, which perhaps formed part of one of the long flues. The remains of another of these flues was found in the south-east angle of the *insula*.

To the east of the transverse block of House No. 3 a large square bed of gravel was uncovered, which perhaps served as the floor of one of the detached rectangular buildings. No traces, however, of any walls were found, but the structure may have been of wood.

Halfway between the *opus signinum* pavement in House No. 3 and the street on the east there occurred an unusually large pit (KK). It was about 12 feet square and 16 feet deep. From it were obtained a large number of the blade-bones of sheep, which had evidently formed the refuse of a worker in bone. The

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thin and flattened surfaces are perforated with numerous holes, which have apparently been made by cutting out rings with a centre-bit or some such instrument. The rings were of two sizes, $\frac{1}{2}$ inch and $1\frac{1}{8}$ inch, and were cut with two tools, one for the lesser rings, the other capable of cutting both sized rings simultaneously. In each case a central hole $\frac{1}{4}$ inch in diameter was made by the cutter. In the thinner portions of the bone the rings were cut straight through: but in the thicker parts, after the ring had been partly sunk, the bone was turned over and a second cutting made to meet the other. The method of working is plainly shown by the unfinished or imperfect rings that are left in some of the specimens.

To the south of the pit that yielded these curious relics of a Romano-British industry, another pit of the usual kind was met with. From it were obtained some small vessels of red glazed pottery, and a curious piece of wood, not unlike the bar of a yoke. This is of oak, and measures 5 feet in length by 2 inches in thickness. It is 5 inches broad in the middle, but tapers quickly to $2\frac{1}{4}$ inches, which is the breadth at the ends. It is not straight, but curves slightly from the centre to each end.

In clearing out another pit hard by, a more remarkable discovery was made. In the opposite sides of the pit a curious cutting was disclosed filled up with gravel of a different texture from the natural bed of the same material through which the pit was sunk. This cutting was followed in a north-easterly direction as far as the limits of the *insula*, where the growing corn prevented its being traced further until after harvest. In the opposite direction the cutting was followed westwards, at first by sinking a shaft to intercept it and then tunnelling between, but afterwards by opening it out to its full width and depth. It then appeared as a trench between 6 and 7 feet deep and about 3 feet wide, gradually narrowing to a little over a foot at the bottom. This trench was followed through the southern end of House No. 3, along the south side of *Insula* XVI. and about halfway across *Insula* XV. Beyond this it was traced by cross sections at intervals until it reached the foot of the bank lining the city wall, from whence it was followed tunnel-wise under the bank and wall into the ditch. It here terminated at about 18 feet from the wall against a rough mass of flint masonry.

In the portion of the cutting first excavated there were found at the bottom, at irregular distances of about 7 feet apart, the remains of a series of iron bands or collars, but no traces of them remained west of House No. 3, *Insula* XVI. These bands had an internal diameter of $4\frac{1}{2}$ inches and an average width of $1\frac{1}{2}$ inch, and had clearly formed the joints of a series of wooden pipes laid in the trench. Of these pipes every other vestige had entirely disappeared, but the evidence of them is plainly visible on most of the fragments of the iron bands.

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The junctions were made first by driving a band into the end of one pipe, then placing the next pipe against it, and with a blow of a mallet driving this second pipe on to the band so that it united both pipes. The joint appears to have been made watertight by some kind of cement placed inside and outside the collars when the pipes were being laid.

There does not seem to be any record of such a discovery as this elsewhere in this country, but one of precisely the same kind was made in France in 1772 on the site of a Roman town at Chatelet, between St. Dizier and Joinville, in Champagne. It it thus described by M. Grignon, who carried out extensive excavations there by order of the king:

> Nous avons ouvert une tranchée de deux pieds & demi de largeur, sur 50 toises de longueur, qui renfermoit une conduite d'eau composée de tuyaux en bois entiérement détruit. Nous n'en avons trouvé d'autres vestiges que des parcelles de bois, que étoit ferrifié dans les liens de fer qui contenoient les sertissures : ces liens se rencontroient exactement d'espace à autre, de cinq pieds & demi environ de distance.[a]

M. Grignon unfortunately gives no further particulars of his discovery.

Owing to the rise of the ground at Silchester as the trench approached the city wall, it seemed to increase in depth as it proceeded westwards, but a succession of levels taken at intervals throughout its length showed that the bottom was practically horizontal.

The ditch outside unfortunately is at present filled with bushes and undergrowth, which we could not obtain leave to remove; we have not therefore yet been able to ascertain to what the masonry there found belonged, or in what way it was connected with the pipe. These points must accordingly wait solution until the periodical cutting of the undergrowth now cumbering the ditch.

After harvest we were able to trace the course of the pipe eastwards. It passed under the street and into *Insula* III. in an east-north-easterly direction, and then gradually trended eastwards from the street for 62 feet, where it apparently ended. The last collar which was found here was 48 feet distant from the southern limit of the *insula* and about 45 feet from House No. 1, *Insula* III. It was also nearer the surface than the others, being only 3 feet 6 inches from the present level, while the next collar, which was 6 feet 3 inches distant, was 5 feet under ground, or 18 inches lower. Another collar 49 feet further west was 7 feet deep, while two collars found where the pipe traversed the south end of House No. 3, *Insula* XVI., were only 5 feet from the surface. There does not

[a] Grignon, *Bultin des fouilles faites par ordre du Roi, d'une Ville Romaine, sur la petite montagne du Chatelet, entre St. Dizier et Joinville, en Champagne, découverte en 1772* (Bar-le-Duc, 1774), ix.

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seem therefore to have been much care taken to lay the pipe level.

Efforts made to trace the pipe beyond the point already noted in *Insula* III. led to the unexpected discovery of an important building with which it was apparently in connection. This building lies at a much lower level than any other in this part of the city, and it had been entirely overlooked when we excavated *Insula* III. in 1891. This is to be accounted for by the fact that besides its greater depth it is overlaid by a hard layer of gravel which has been intentionally deposited above it, and further, because it partly underlies House No. 1. So far as the building could be traced it appears to contain at least two well-made drains built of tiles, as well as one or more hypocausts, and a chamber with a tile floor. Unfortunately the difficulty in clearing this deeply buried building was so enhanced by the unusually bad weather which set in early in September that it was deemed unadvisable to proceed further with it, and it was accordingly covered up. That our pipe was laid to conduct water to it from the city ditch there can be little doubt, but we have still to find out by what means the water was made to run through the pipe by gravitation, and with sufficient pressure to overcome the rise at its eastern end. The building was clearly one in which much water was used, but whether it contained baths or not has yet to be ascertained. It may, however, be pointed out that the house which overlies it was connected with a building at the south-east corner of the *insula*, which seems, from its arrangements, to have formed a private bathing establishment.[a]

It may of course be suggested that the pipe served to convey waste water into the ditch rather than to bring a supply into the city But in that case we should certainly have expected it to take a different direction, for had it run southwards instead of westwards it would have gone downhill the whole way, instead of traversing ground which was for the most part level. Moreover, the last two collars found were so much higher than the drains that it seems difficult to imagine the pipe as laid for any other purpose than a water supply.

During the following up of the course of the water-pipe the question was raised as to its probable place of exit beneath or through the city wall, and as its line then seemed to be pointing for an apparent break in the wall where the mound was also lower than usual, an excavation was there made. This resulted in the totally unexpected discovery of a hitherto unknown gate in the city wall, and one moreover presenting several features of interest. It originally consisted of an archway 11 feet $7\frac{3}{4}$ inches wide and 3 feet 3 inches deep set in the outer

[a] *Archaeologia*, liii. 281-283.

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face of the wall, which was here 9 feet 7½ inches thick, with an inner arch 6 feet 10½ inches deep and 11 feet 10½ inches wide towards the city. (Plate XXIV.) The outer arch had unfortunately been destroyed, with the exception of the chamfered plinth of its north side. (Plate XXV.) This projected 4½ inches beyond the plinth of the wall, which here luckily remained,[a] and of which it formed a continuation, and upon it there apparently stood a pilaster, 2 feet 6 inches broad, flanking the arch. The north-west corner of the plinth was apparently worn down by continual contact with the wheels of vehicles that passed through the gate.

The jambs of the inner arch were standing to a height of over 6 feet on each side. Like the wall they had a chamfered stone plinth, and were built of layers of flint with occasional lacing courses of stone, with stone quoins on the city side. The construction had originally been concealed, as usual, beneath a coat of plaster.

The removal of the earth within the wall on either side of the gate showed clearly in the section thus made that the mound lining the wall had been cut down so as to slope gently towards the street that led to the gate.

At some late period in the history of the city extensive alterations were made to this gate. In the first place, the roadway inside it was raised between 4 and 5 feet, with a corresponding ascent to it from within the city. Upon this had been built, against the north jamb only, a mass of masonry 4 feet 11 inches broad, of somewhat poor construction, which extended through the wall and reduced the gateway on the inside to 7 feet in width. (*See* Plates XXIV. and XXV.)

How the original archway was treated is a matter of conjecture, since nothing remained to show, but probably the lesser arch of the gateway as altered was built within it and accommodated to the old impost and jamb on the south side, which again did duty in the new gateway.

Several interesting objects were discovered in and about the gate. Foremost among these are a number of fragments of worked stone. They include pieces of seven different imposts of varying design and section. The largest, which was 8½ inches deep, may possibly have formed part of the impost of the original gate, but it is doubtful if the others were in any way connected with it. It will be remembered that various architectural remains that did not belong to them were found when the north, south, and west gates were excavated, and in like manner these fragments may have been used as building material when the gate in question was altered. This seems probable because another fragment found

[a] The outer facing of the wall is perfect for some little way beyond the gate northwards to a height of 2 feet 3 inches above the plinth. It was formed of flints regularly laid, with lacing courses of sandstone at intervals.

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among the rubbish was evidently part of an enriched cornice from some building in the city.

Besides the architectural fragments, two other interesting relics were turned up in the gate.

One was a cylinder of iron, 4 inches in diameter and the same in depth, with a slightly convex plate at the bottom, which had become detached. Inside the ring are traces of wood, and it is evident that we have here the iron shoe of one of the pivots on which the doors of the gate turned. Part of a similar shoe was found during our excavation of the west gate in 1890.[a]

The second relic also belonged to one of the doors, and is a massive strap of iron, $2\frac{1}{2}$ inches deep, bent round so as to embrace both sides of the gate, to which it was fastened by stout nails. The distance between the two limbs shows that the woodwork of the gate was $4\frac{1}{2}$ inches thick where the strap was fixed. One limb is still 14 inches long, but was once longer; the other is bent and twisted as if the ironwork had been violently torn off the gate. Part of a strap, $1\frac{1}{8}$ inch deep, for a door 4 inches thick, was also found at the west gate.[a]

Although we were unable to get leave to follow up in the ditch the termination of the trench for the pipe, we were allowed to sacrifice one or two bushes in a thinly-planted portion nearly in front of the gate, in order to cut a narrow section right across the ditch. We were the more desirous to do this because there were not any signs of a causeway to the gate from without, and it was therefore a matter of interest to learn how it had been approached. This section was made at $14\frac{1}{2}$ feet south of the south jamb of the gate, and was 3 feet in width, and at right angles to the city wall. There was no difficulty in recovering the original contour, the ditch itself being cut in the hard gravel which underlies the city and much of the land to the west and north of it, while the filling up that obscured the old line was vegetable mould mixed with flints from the wall. The thickness of this deposit was about 5 feet, but near the wall it increased to 8 or 9 feet.

The section (*see* fig. 1) differed considerably from what we expected to find. To begin with there was no berm, but the scarp descended somewhat abruptly from the plinth of the wall to a depth of 7 feet from the old roadway in the gate, which represents the original level. From this point, which was $6\frac{1}{2}$ feet from the face of the wall, the ditch gradually shelved downwards for 50 feet, where its lowest depth was 12 feet. It then commenced to rise somewhat quickly, so that at 73 feet from the wall the depth was only 6 feet, but the rest of the counter-scarp

[a] *Archaeologia*, lii. 756, and plate xxxiii.

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SILCHESTER.—LESSER GATEWAY IN THE WEST WALL, WITH LATER PARTIAL BLOCKING, DISCOVERED IN 1896.

From a Photograph by Mr. Victor White.

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was under a field beyond our limits and could not be followed up. The total width of the ditch was about 80 feet. At a distance of 22 feet from the wall we came upon the slope of a gravel bank, which further excavation showed to be

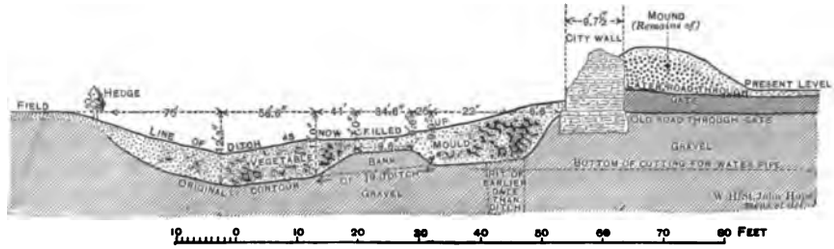

Fig. 1. Section of the city ditch by the lesser west gate at Silchester.

2 feet 6 inches high and 19 feet wide in all, with a flat top 9½ feet wide, parallel with the slope of the ditch. This bank was found to pass across the front of the gate, but we were not able owing to the undergrowth to find either end of it. Having regard to the absence of a causeway and the lack of any flanking

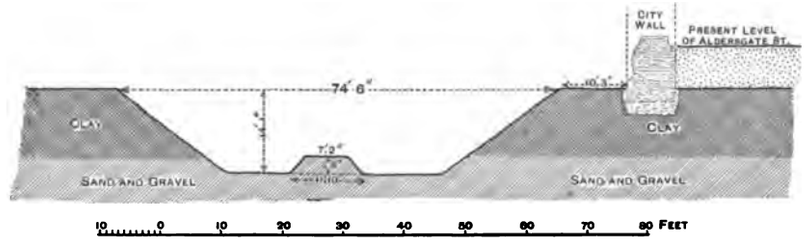

Fig 2. Section of the Roman city ditch near Aldersgate, London.

defences to the gate, it is clear that the approach was by a wooden bridge that could easily be destroyed in time of peril. It seems to have been in two sections: a long one spanning the deepest part of the ditch, and a short one, perhaps a drawbridge, immediately before the gate. The trestles that supported the junction no doubt stood upon the gravel bank.

An account of the discovery of a similar bank in an identical position with regard to the Roman gate at Aldersgate, in the City of London, was laid before the Society in 1889 by our Fellow Mr. George E. Fox.[a] As the accompanying section (fig. 2) shows, the bank was 11 feet 10 inches wide at the bottom and 7 feet 2 inches across the top, and 2 feet 9 inches high. The ditch was there 74 feet 6 inches wide and 14 feet deep.

[a] See *Archaeologia*, lii. 609-616.

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The gate leading to the amphitheatre at Silchester which was uncovered by Mr. Joyce in 1865,[a] and again examined by us in 1893,[b] was of similar character to and of about the same dimensions as that recently found. It, too, had a wooden bridge across the ditch instead of a causeway.

Too much stress must not be laid upon the particular section laid open last year, for it is obvious on examination that the ditch differed widely at various points round the city, and many more sections must be cut before any definite theory can be laid down about it. One question that will have to be faced is the actual date of wall, ditch, and mound. The ditch and mound have hitherto been looked upon as Celtic, but the mound is of earth and not of gravel, as it should have been had it been formed of the material excavated from the ditch, while the unexpected discovery of a rubbish-pit of the usual character in the ditch itself close to the wall, which yielded "Samian" and other undoubted Roman pottery as well as the coarse native ware, raises a strong doubt as to the pre-Roman date of ditch and mound. It is, in fact, quite possible that the outer earthwork, which has hitherto been regarded as a second line of defence, may prove to be the actual boundary of the Celtic *oppidum*, and that the Roman settlement was at first conterminous with it, and afterwards reduced in size and enclosed by a wall and ditch.

On all these points, however, additional light can be thrown only by further excavations, and it is much too soon for more than mere suggestions.

In addition to the other operations after harvest a small area was trenched on the south side of the parish churchyard, which is within the wall near the east gate, in view of its immediate enclosure as an additional burying ground. This area adjoins that containing the two square temples uncovered by us in 1891.

The comparatively small size of the ground to be enclosed and its proximity to the city wall did not promise any great results, but the trenches fortunately disclosed about the centre of it a small house of the corridor type. It stood north and south, and probably abutted upon the street that formed the southern limit of the temple enclosure, but operations here were impossible owing to the north end of the house being under the churchyard. Its probable length was about 77 feet.

As will be seen from the plan (fig. 3) the house contained a series of at least four chambers, averaging 20 feet in width, with a corridor on the west side, 8 feet 4 inches wide, terminating at a small square room which was placed across its southern end. The walls were built chiefly of flint with a large admixture of soft green sandstone. No traces of pavements were found, but in the corridor

[a] *Archaeologia*, xl. 416.

[b] *Archaeologia*, liv. 237.

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SILCHESTER.—NORTH SIDE OF THE LESSER WEST GATE, SHOWING ALSO PLINTH AND FACE OF WALL.

From a Photograph by Mr. Victor White.

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were some remains of a white plaster floor. In the room at the end of the corridor, against its northern wall, is a patch of tiling about 2 feet 6 inches square, which appears to have formed part of a fireplace, like that found in House No. 2, *Insula* XIV.

The only object of any importance found in or about this house was a small piece of worked porphyry, which probably came from one of the adjacent temples.

The usual collection of minor antiquities was made during our excavations.

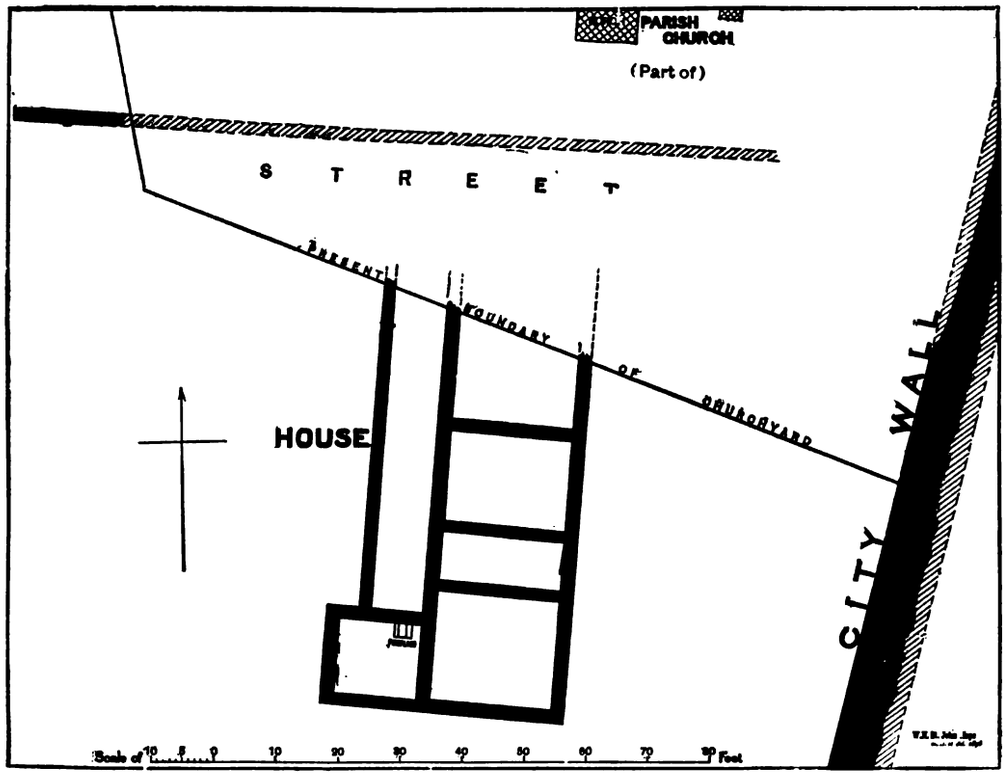

Fig. 3. Plan of the foundations of a house uncovered to the south of Silchester parish church in 1896.

Of architectural remains, only one small capital of a column, closely resembling that found in 1895,[a] was met with.

Among the bronze objects may be noticed the remains of a delicately made strainer with the perforations disposed in a fret pattern, two bells, a flattened boss inlaid with niello, part of the bronze plating of an ornamental casket, a ring with what may be a Chi-Rho on the bezel, a charm against the evil eye in form of a bull's head with a phallic emblem in the mouth, and four oval brooches once

[a] See *ante*, 238, fig. 3.

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gilt, of which two retain their imitation glass gems. Another imitation gem of green glass, but square in form, was also found. There is also the usual series of brooches, pins, spoons, tweezers, keys, *spatulæ*, etc.

The lead tripod foot of a candlestick may also be mentioned.

Of iron objects there are several of interest, including a pair of compasses, the end of a cart pole (?), two lamps of different shapes, a candlestick, and a number of knives, *styli*, keys of various patterns, etc.

Very little glass was found in 1896, but we were fortunate enough to light upon another large fragment of the rare variegated glass in the form of a handle of a vessel of a well-known bronze form, but rare in glass or pottery. We also found, besides a few beads, a small square panel of very rare mosaic glass of a deep blue with pink flowers and yellow leaves.

A remarkable object from the top of a pit in *Insula* XV. is part of a stool leg turned out of some hard wood. Pieces or even fragments of Romano-British furniture are of such rarity that this discovery deserves more than a passing notice.

The accompanying block-plan (fig. 4) shows the progress made up to the present in the excavation of the city.

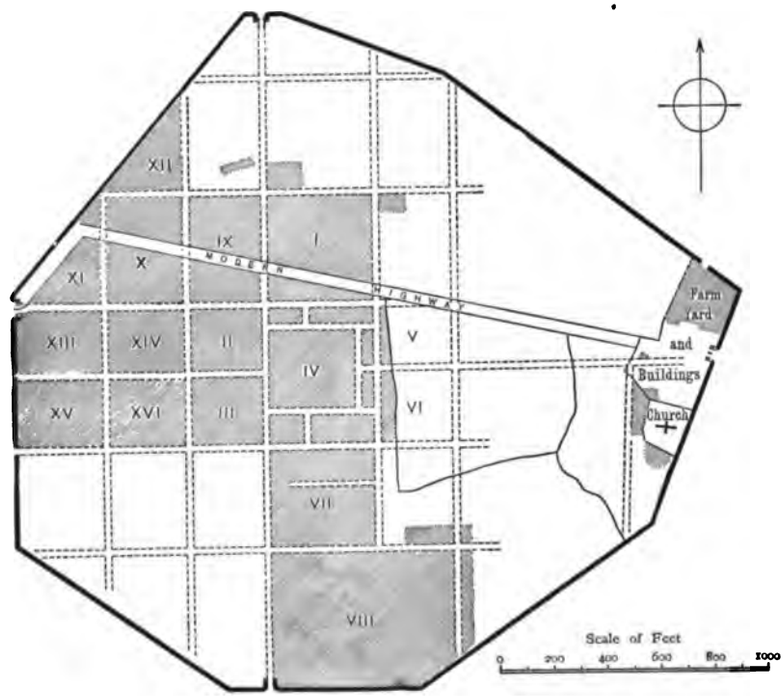

Fig. 4. Block-plan of Silchester, showing portions excavated down to the end of 1896.

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MOSQUE OF THE KALENDERS AT CONSTANTINOPLE_FROM THE NORTH-WEST.

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XIX.—*Notes on the Church now called the Mosque of the Kalenders at Constantinople.* *By* EDWIN FRESHFIELD, *Esq.*, *LL.D.*, *F.S.A.*

Read April 7, 1881.

THIS paper was read before the Society in 1881, but owing to the difficulty of getting the photographs necessary to illustrate it properly it has not been ready for publication until within the last two years.

In the year 1877 my late friend Dr. Paspati, then resident at Constantinople, published a list and a description of some then unidentified Byzantine churches in Constantinople, the majority of them being used as Mohammedan mosques. In the year 1880 I visited all of them, and among the number a building which Dr. Paspati describes as the Kalender Khane Djami, or the Mosque of the Kalenders. We know this word from the story of the Three Kalenders among the Arabian Nights tales. The Kalenders were a Mohammedan religious order, believed to have originated in Andalusia and distinguished by the strictness of their rule.

This building lies out of the usual track of visitors, in the district called Shahzadé, from the large mosque of that name, and is close to the eastern end of the aqueduct of Valens, lying to the south of it, and not far from the point at which the aqueduct terminates in the rising ground.

It can be found by inquiry at the mosque of the Shadzadé, and since I have taught the various Constantinople guides, the way to it is pretty well known.

I remember describing to the Society the difficulty I had in finding it and afterwards obtaining access to the interior of the Djami, but that is all now ancient history. At all events, when I saw Dr. Paspati a year or two afterwards he told me that he had never succeeded in getting inside the building, and, as far

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as he knew, except it might be a Christian mason or carpenter, no Christian had ever found his way into the building until I did.

What I saw I am going to describe, and to make what I say intelligible I have illustrated the paper pretty plentifully with pictures.

The first of these is a view of the outside taken from the north-west side of the building, which shows the general appearance of the building. (Plate XXVI.)

From the accompanying ground plan and sections (figs. 1-4), which I have caused to be made, it will be seen that the building is oblong in plan, and consists of a double narthex, the outer of which probably communicated with a

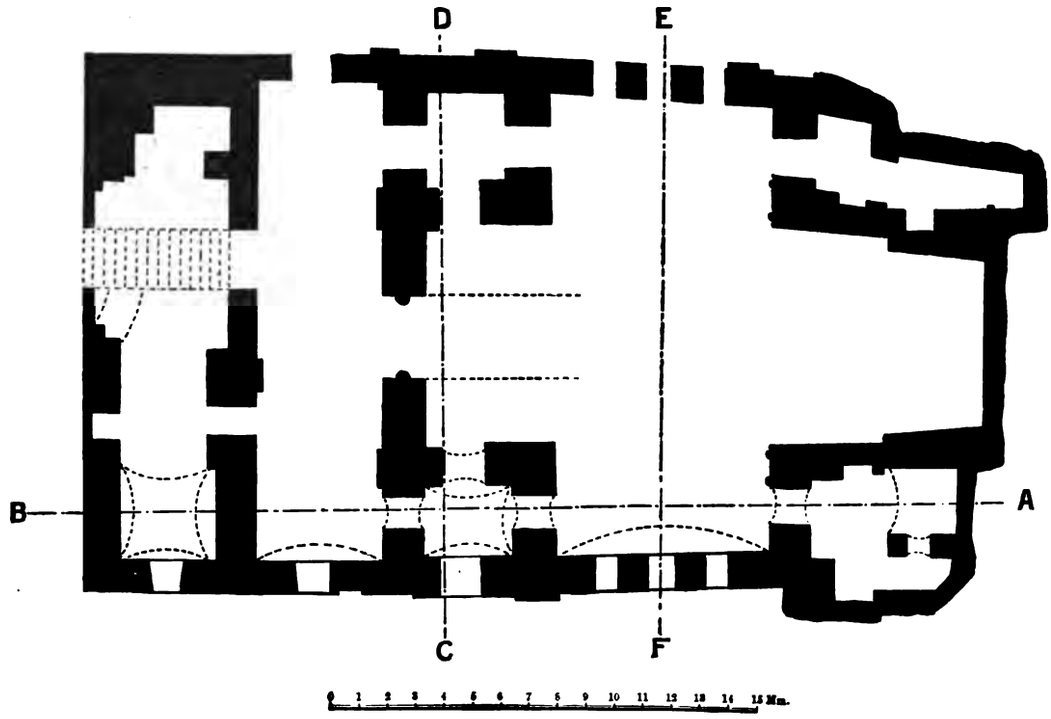

Fig. 1. Plan of the Mosque of the Kalenders at Constantinople.

forecourt now destroyed, and the inner opens into the body of the church, with the women's gallery over it. The body of the church is nearly square and has the interior so arranged that, according to the usual Byzantine plan, it forms a cross inscribed in a square. The centre of the church is roofed by a dome standing upon a low drum.

The eastern end of the building is square, in this respect differing from every

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CAPITAL IN THE MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.

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CAPITAL IN THE MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.

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MOSQUE OF THE KALENDERS AT CONSTANTINOPLE — REMAINS OF THE IKONOSTASIS (NORTH SIDE)

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MOSQUE OF THE KALENDERS AT CONSTANTINOPLE — REMAINS OF THE IKONOSTASIS (SOUTH SIDE)

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MOSQUE OF THE KALENDERS AT CONSTANTINOPLE—DETAILS OF THE REMAINS OF THE IKONOSTASIS.

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MOSQUE OF THE KALENDERS AT CONSTANTINOPLE — DETAILS OF THE REMAINS OF THE IKONOSTASIS.

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MOSQUE OF THE KALENDERS AT CONSTANTINOPLE — DETAILS OF THE REMAINS OF THE IKONOSTASIS.

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Byzantine church I had ever seen, and about which something will presently have to be said.

The outer or exo-narthex is approached by one door only. The ground has risen so much at the west end of the building, probably by the ruins of buildings at this part, that the present door cannot have been the original one, and is, I think, more likely to have been a window. The floor of the outer narthex is reached by a steep flight of steps. The outer narthex opens directly into the inner narthex.

The body of the building is reached by a round-headed arch, supported on either side by pillars with a *quasi* Corinthian capital, but of different dates. The northern capital (Plate XXVII.) is apparently taken from an older building, the southern one (Plate XXVIII.) is of the date of the building.

On entering the church it is seen that it retains, in a measure, its original marble decoration. Deficiencies have been occasionally supplied by Turkish stucco and paint, but the building retains a large part at all events of its decoration, and in that view is very interesting.

There is no trace of the original decoration of the dome, which was, no doubt, covered with mosaic.

The roof of the so to speak nave and chancel or ieron of the building is cylindrical, and the dome is supported upon the usual Byzantine pendentives.

The ieron is large, and at either side of it are the well-known arrangements for the prothesis on the north and the diaconicon on the south.

And here there is a very interesting feature in the walls which divide the ieron from the two side-openings. These walls are entirely covered with marble; the remains of the ikonostasis or picture-screen are still *in situ* (Plates XXIX. and XXX., XXXI. and XXXII.).

The top of the screen is formed of a broad piece of carved white marble, and although this has been very plentifully whitewashed, sufficient of it can be seen through the thick coats of the material to get a general idea of it. This will be seen from the plates, which show not only the general appearance but the details. I shall describe this screen presently.

The openings into the prothesis and diaconicon have been partially blocked up, and the openings connecting the ieron with these chambers quite so, but the position of them can be seen, and when I first visited the church the communication between the prothesis and the ieron was partly open.

From Plates XXIX. and XXX. it will be seen that the east end of the building

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at present appears square. This is an absolutely unknown arrangement in a Byzantine church, and when I first saw it it puzzled me much.

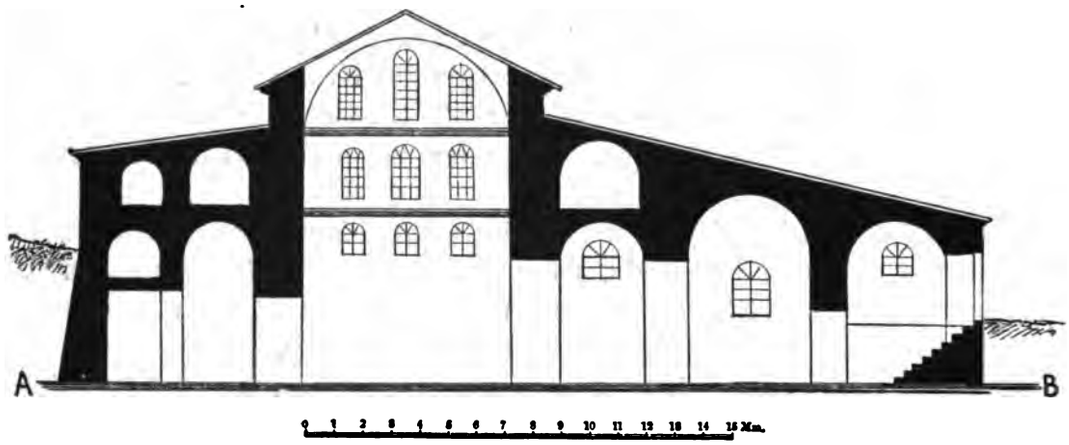

Fig. 2. Mosque of the Kalenders at Constantinople.
Section on line A B of plan, looking south.

When I examined this end attentively, the first thing that struck me was that there was no marble at this part of the church. The whole seemed to be stucco and paint. On the other hand, inasmuch as the church did not point to Mecca, the Turks had built up a wall against the square east end, in which a mihrab pointing to Mecca had been made, which militated against the end being Turkish.

At this time there were wooden buildings all round the east end, and I was unable to find anything out. But the fact remained, that the square east end had been altered by the Turks. So I was left in doubt. Fortunately, a few years after, a fire happened which destroyed all the buildings at the east end of the church, and this enabled me to get a clear view of it from the outside; this afforded at once an answer to the riddle. The semicircular apse had been pulled down by the Turks, and a square wall built up by them, as was apparent from the masonry, which was not Byzantine. I immediately had a photograph taken to preserve a record of this fact, and the broken ends of the wall, which show the commencement of the curve of the central apse, may be seen in it. (Plate XXXIII.).

I cannot account for the second wall built inside the Turkish wall. It may be that the kalenders were content with the orientation of the square end, and that when they left the building the inner wall was built by the zeal of an imaum, when the building became a district mosque.

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MOSQUE OF THE KALENDERS AT CONSTANTINOPLE— EAST END.

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There are galleries over the prothesis and diaconicon on either side, and provisional arrangements for getting up to them. I do not see how they could ever have been reached from the women's gallery at the west end of the church. There have obviously been Byzantine buildings at either side of the east end of the church, probably connected with the church itself, and access may have been had from these.

At the side of the south transept there are pillars with capitals in the same style as those at the west entrance.

I must now say a few words about the two portions of the ikonostasis or screen, which still remain in the position I have indicated. These portions of the screen are divided into three parts, consisting of a lower division, a middle division, and a cornice. The lower division, which is only a few feet high, consists of a slab of marble flanked by two small marble pilasters, with a sort of cushion capital supporting a narrow cornice of marble carved with a usual Byzantine ornament. The capitals are ornamented with clinging acanthus leaves. The middle division consists of two large slabs of marble, each flanked by two thin pilasters of *verde*

Fig, 3. Mosque of the Kalenders at Constantinople.
Section on line C D of plan.

antique, with very elegantly carved capitals with falling foliage. The cornice is of white marble, delicately carved with falling acanthus leaves; and, as I have said before, plentifully covered with plaster and whitewash. There seem to have

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been figures in low relief, after the Byzantine fashion, at the ends, and at the middle of each division of the cornices, which figures have been defaced by the Turks, and a sort of rough imitation of foliage made in plaster to take their place (Plates XXXI. and XXXII.).

There is no doubt that the cornice was carried across the three openings. Indeed, I think I could see where the cornice had been cut off. I think the screen would probably be in arrangement like the two side pieces.

The lower part would correspond to the lower part of them.

In the middle division, in the place of the slabs of marble, would be placed large pictures, covered, except as to the faces and hands, with silver, and between the top of the pictures and the cornice there would be an open space.

The cornice would probably be supported by pilasters similar to those on the two sides, or perhaps pillars, and in the space between the north and south walls of the ieron would be divided into three or five divisions.

There would be a door or opening into the ieron, in the middle of the screen, and there would probably be a similar arrangement in front of the two side openings.

There is an original ikonostasis or picture-screen in existence in the church of St. Luke at Stiri, in northern Greece. This screen is later in date than the present one, but probably all these screens were arranged upon a general principle, so that we shall not be wrong in saying the screen in our church would be made upon the same general idea as the screen in St. Luke's (Plate XXXIV.).

This particular feature is very interesting, because in no building in Constantinople is there anything exactly like it. In one church, that of the Mone tes Choras, there is a small portion of the screen existing against the south eastern wall, just before the springing of the apse, which it may be useful to compare with this as to the detail. But the church of the Mone tes Choras is of the date of the Emperor Justinian, and therefore has only one apse. The screen is later than that now in consideration (Plate XXXV.).

There is, as I have said, very little ornamentation in the church; it depended for ornament upon the marble and probably upon its internal fittings, which have disappeared, but there are two very curious marble slabs built into the west wall (Plates XXXVI. and XXXVII.).

These two are of slightly different designs, and their object is not at first sight apparent. I think they are of later date than the church, and I do not think that the two are of precisely the same date. It will be observed that they

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IKONOSTASIS FROM THE CHURCH OF St LUKE AT STIRI.

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SOUTH SIDE OF THE APSE OF THE KAHRIEH DJAMI (THE CHURCH OF THE MONE TES CHORAS) AT CONSTANTINOPLE.

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are made to imitate closed doors, and I think they probably represent and are the entrances to two places of interment. That it was the practice to bury in the floor of the gallery in the thickness of the vaulting between the floor of the

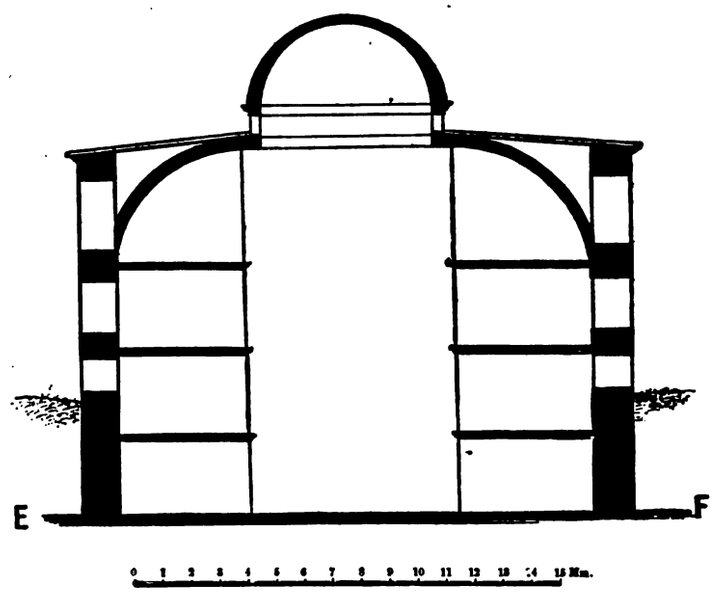

Fig. 4. Mosque of the Kalenders at Constantinople.
Section on line E F of plan.

gallery and the ceiling of the church below is well known, as there are existing examples of this. The best known one is the tomb of the Doge Dandolo, who was buried in the south gallery of St. Sofia. There is a somewhat similar slab of marble exactly in the same situation in the church of St. Demetrius at Salonica, which I think was put there for a similar reason.

It will be seen that the interest of this paper depends upon the illustrations. The paper itself is slight enough, but I must, I think, before concluding it say a few words as to the age of the church and what it was.

Dr. Paspati, who has identified most of the buildings that he in fact rediscovered in Constantinople, has failed in identifying this church. He suggests that it may have been the church of the monastery of Valens. From the ruins and from the extent to which the land has risen in front of the church, I think it quite clear that this was the church of a monastery, and it is quite likely that, if it was possible to excavate in front and at the rear of the church, we should find some traces which might enable us to identify the name of the church. From its

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proximity to the aqueduct of Valens, there is no impropriety in calling it by that name, but as to certainty at present it must remain an unnamed church.

The date is more easy to fix. It is, I believe, not earlier than the eighth and not later than the tenth century. This may be gathered from the form of the church and the character of the dome. Had it been later it would have been more like the churches built by Byzantine architects in Russia, who certainly built in the style which was prevalent in Constantinople. It is built in the usual method of Byzantine construction, of stone, with layers of brick.

I grieve to say that since this paper was first written the building has undergone a process of restoration. We all know what an English restoration is, and we have used hard words about church restorers at this Society, but you should see what a Turkish restoration is like.

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MARBLE SLAB IN THE MOSQUE OF THE KALENDERS AT CONSTANTINOPLE.

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XX.—*The Dolmens and Burial Mounds in Japan.* *By* WILLIAM GOWLAND, *Esq.*, *F.S.A., Assoc. R.S.M., late of the Imperial Japanese Mint.*

Read 29th April and 6th May, 1897.

PART I.—THEIR STRUCTURE AND DISTRIBUTION.

THE Papers which I have the honour of laying before the Society contain a summary of my explorations and investigations of the dolmens of Japan during a long residence in that country.

We have but little exact knowledge of the mode in which the Japanese disposed of the bodies of their famous dead in the very earliest times. The somewhat vague statements of their ancient traditional records would seem to point to burial or mere deposition on the summits of natural hills as their earliest practice, but the most ancient remains yet discovered have not been found in such localities, but on the lower grounds bordering the plains, and on the plains themselves. These remains, which consist of bronze swords and arrowheads, personal ornaments of steatite, jasper, rock crystal, and other stones, and along with which no objects of iron occur, are generally found at but slight depths below the surface of the ground. It is impossible to say with absolute certainty whether they had or had not been originally covered with mounds of earth. If they had been so covered and the mounds were only of small dimensions, the action of long weathering or the agricultural operations of bygone ages would have amply sufficed to level and destroy them. The mass of evidence is in favour of the belief that low mounds had been erected over them and that the Japanese were a race of mound builders in very early times indeed.

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In China, mound-burial was practised at a very remote period, and although implicit credence cannot be altogether given to the specific statements of the early writers relating to this matter, yet broadly considered their testimony doubtless contains some elements of truth. The first burial-mound of which they give a record is the tomb of Hia How Kao,[a] the date assigned to it being 1848 B.C. Several others, which I need not specify, of later centuries B.C. are also mentioned; but, apart from these records, we have very weighty evidence in favour of the extreme antiquity of mound-burial in that country in the use of the ideograph 陵 *ling*, Jap. reading *ryō*, from very remote times to denote a burial mound, its original proper meaning being a high mount or peak. As the civilization of China, even during these times, was probably not without influence on the tribes beyond its frontiers, it is not impossible that the Japanese may have been mound builders before they migrated from their old home on the mainland. Whether this supposition be correct or not, it is certain that the race practised mound-burial, especially in the western parts of the islands they now occupy, several centuries before our era.

That the simple mounds preceded those that contain a rude stone chamber, which we call a dolmen, is also not open to doubt, for associated with them we find the rudest hand-made pottery, and neither this pottery nor the swords of bronze previously mentioned have ever been discovered in dolmens. Stone beads and ornaments, and sometimes bronze arrow-heads are, however, found in dolmens, but then they occur along with weapons and objects of iron and beads of glass. The period of the dolmens is thus a continuation of that of the simple mounds. During the dolmen period, and certainly after it, the building of simple mounds still survived, but sarcophagi of wood, stone, or terra-cotta, of which there are no traces in those of the earliest date, were then used.

As the entire subject of the various modes of mound-burial practised by the Japanese from prehistoric to early historic times covers such a wide field that it could not be satisfactorily treated within the limits of these papers, I propose to confine my remarks to the dolmens only.

It will, however, be necessary for me to mention incidentally a few non-dolmen mounds, and to compare them with the dolmens, more particularly some of the former, which are contemporaneous with them and contain similar remains.

In addition to burial in mounds and dolmens, sepulture in chambers hewn in

[a] Mayers, "On the Stone Figures at Chinese Tombs," a paper read before the North China Branch of the Asiatic Society, 12th March, 1878.

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the rock *in situ* was also largely practised by the early Japanese. I first discovered two important groups of these rock-tombs on the western frontiers of Kawachi about fourteen years ago, but subsequently met with them in other provinces in localities where the rocks were easily cut, such as tuffs and decomposed granites. Some, as for example those in Hyūga, may perhaps be of similar age to the early mounds, but those I examined were in all cases completely empty, and the remains found in others in other districts were not of earlier date than the dolmen period, so that it is difficult to speak with certainty on this point.

Standing stones, either single as "menhirs" or in "avenues" or "circles," which are not unfrequent in Europe, Africa, and the mainland of Asia, do not appear to have been ever set up by the early Japanese, as none have been found anywhere in the country. The nearest approach to stone circles is seen on a circular terraced burial-mound near Kyōto, attributed to the Emperor Tenchi (died 670 A.D.), where each terrace is encircled by a low pile of small round stones; also on a mound of earlier date covering a dolmen, near Ashikaga (prov. Shimotsuke), explored by Professor Tsuboi, of the Imperial University Tōkyō, where two belts of large pebbles are similarly placed.

More remote analogues of stone circles, although probably intimately connected with them in symbolical meaning, are the circles of terra-cotta figures which were set up around the summits of the burial-mounds of important chiefs as substitutes for their retainers and wives, who in earlier times were interred alive in the same position; also the rows of large terra-cotta tubes (fig. 11), to be described later, which fringe the peaks, terraces, and moats of many of the larger mounds. These tubes were, however, generally almost completely buried in the ground, although sometimes, and then they were of a different shape, they enclosed as a fence the immediate precincts of the tomb, in the same position as the terra-cotta figures.

Of the simple burial-mounds of earth of the earliest period we know but little, as all have been more or less completely destroyed by the hand of time or in reclaiming land for agriculture. They cannot, however, have been of very large dimensions, as all the remains representing that time have been found, as I have already stated, but shallowly buried in ground either level or only slightly elevated above the surrounding surface. In Yamato these remains consist generally of stone beads and ornaments of various kinds, associated with arrowheads and other articles of bronze. Further westward, in Aki, northern Shikoku, and especially in Kyūshū, bronze swords also have been unearthed. No stone weapons or implements have ever been found, to my knowledge, in any of these ancient burial

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mounds in any part of Japan. In fact, all the evidence afforded by the remains tends to show that the Japanese had passed out of their Stone Age before they migrated from the mainland; and the discoveries of the bronze swords and the moulds for casting them, which will be described later, only in the western parts of the country, would seem to support the view that they were then in the last stages of their Bronze Age.

Excepting these earliest mounds all others enclose either dolmens or sarcophagi. Those containing dolmens are generally older than those containing sarcophagi; there are, however, several examples in which both classes are undoubtedly contemporaneous.

Dolmens.

The term "dolmen"[a] is used in these papers in its broad or generic sense, and signifies a stone burial-chamber, generally of rude megalithic structure, larger than a cist, and whether covered by a mound or not. Dolmens are very numerous in Japan, and many hundreds are known to me. Of these I have carefully examined 406, and made drawings of or measured 140. It would hardly be profitable were I to attempt to describe or even enumerate all these, I hence propose to notice only the chief types of the principal groups, to point out their most important features, and to refer to Table I. for the details of these and others, which can be studied at leisure by any who may wish to pursue the subject further.

Distribution.

Their distribution in the country is shown in the sketch map (Plate XL.). From this it will be seen that they occur in more or less scattered districts, chiefly in the basins of the greater rivers, on the margins of the more important plains, and

[a] I follow the practice of most continental authors in this use of the word "dolmen." The following writings of some distinguished archaeologists, in which the word is used in the above sense, may be cited:

G. de Mortillet, *Matériaux pour l'histoire primitive et naturelle d l'homme*, xiii. 412 *et seq.*

J. de Morgan, *Mission Scientifique en Perse*, 1896, p. 56 *et seq.*

Prof. N. Joly, *Man before Metals*, 1883, p. 147.

Prof. E. S. Morse, "Dolmens in Japan," communicated to the Boston Society of Natural History, 1879.

And Herr Dönitz, *Verhandlungen der Berliner Anthropologischen Gesellschaft*, 1887, p. 114 *et seq.*

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near the coasts of the Inland and Japan seas. To a lesser extent they are found far inland, as in the provinces of Ōmi, Mino, and Shinano.

Their eastern limit is practically the north-eastern frontier of Musashi and the east of Shimotsuke, but a small group is found a little further east in Iwaki just beyond the border of the latter province. Beyond this they have not yet been discovered. Westwards they extend to the shores of the straits which separate Korea from Japan. From this distribution we may infer that during the period of dolmen-building the occupation of the country by the Japanese was mainly confined to these districts, and that the extreme north-east and parts of the wild forests and mountain tracts of the interior were still held by the aborigines; and this is confirmed by the occurrence of the aboriginal stone weapons beyond the dolmen groups in Mino and Shinano, and other provinces, and in largely increasing quantities as we proceed to the northern extremity of the island.

The districts in which the dolmens are most numerous are a tract around the junction of the provinces of Kōtsuke, Shimotsuke, and Musashi; in Kawachi and Yamato; and in the northern parts of the island of Kyūshū.

The provinces of Settsu, Bizen, and Tosa are also notable for their abundance, whilst Izumo, Hōki, Tamba, and Higo are famous besides for examples specially remarkable for their structure or for the extensive remains which some have contained.

The dolmens usually occur in groups of from twenty to eighty or more. Single dolmens are rare, and where found are invariably the survivors of a group the other members of which have been destroyed.

The situations in which they are generally found are the lower flanks of a mountain range, and the crests and slopes of the lower hills and upland tracts which bound the plains. Sites commanding distant and extensive views seem to have been preferred. In many groups they are placed so closely together that their mounds touch one another or even coalesce, but more often they are scattered over the hill sides and their summits at distances of ten, fifty, or even more yards apart.

Forms of Japanese Dolmens.

Japanese dolmens may be arranged in four great typical classes according to the general form or plan of their interiors, beginning with the most simple and ending with the most highly differentiated structures.

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It must, however, be borne in mind that such an arrangement does not necessarily represent the relative age of each class, as although doubtless the complex forms were evolved from the simple forms of an earlier age, yet some of the latter, even of the rudest structure, range through almost the whole dolmen period.

In figs. 1—4 are represented in outline diagramatically a ground plan and longitudinal vertical section of the interior of each of these four typical classes.

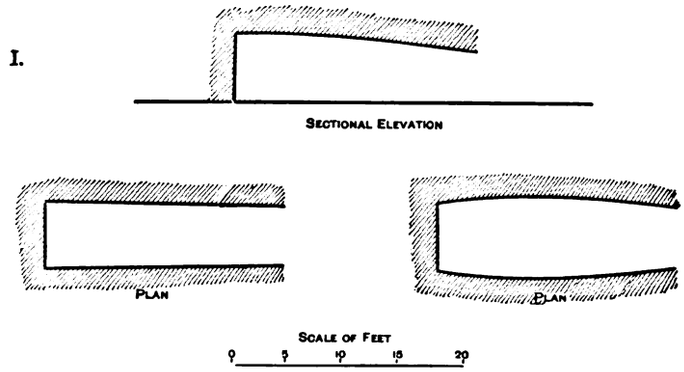

Fig. 1.

Class I. The *allée couverte* types of dolmens, which consist of long galleries with more or less parallel walls and do not possess a separate chamber.

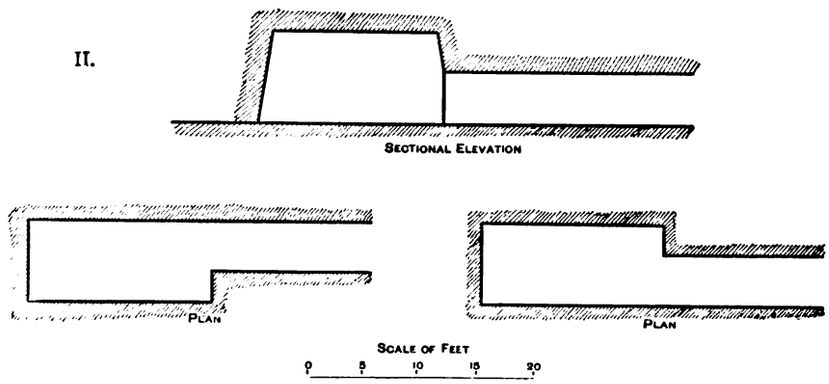

Fig. 2.

Class II. Dolmens which have a distinct chamber and gallery, in which one wall of the gallery is in a line with one wall of the chamber.

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III.

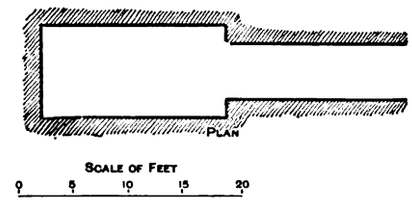

Fig. 3.

Class III. Dolmens having a more complete chamber than the last, with the gallery entering the chamber on the median line. The sectional elevation of these dolmens is the same as that of Class II. (fig. 2).

IV.

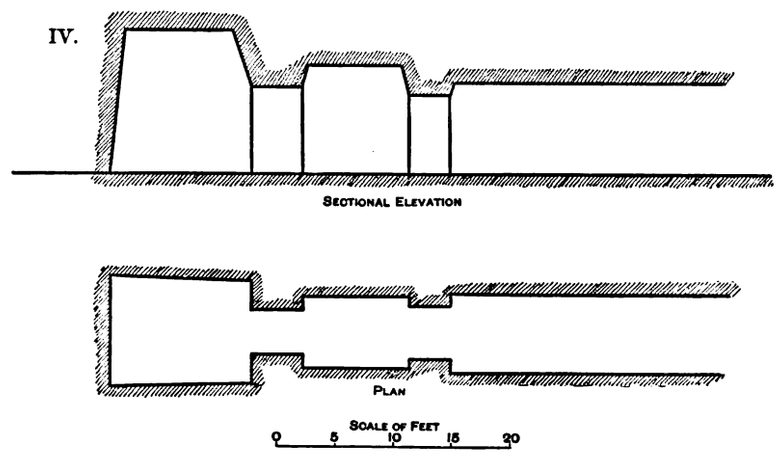

Fig. 4.

Class IV. Dolmens containing two clearly defined chambers.

In addition to the above types there are also a few exceptional forms.

There are no so-called "free standing" dolmens in Japan, *i.e.* no dolmen which originally was not covered with a mound, or which was not intended to be so covered. It is true, however, that many at the present time are partially or almost completely exposed, but in all these cases, even in the few in which but traces of the old mound remains, it can be shown incontestably that they had once been covered by one.

The "cromlech," *i.e.* a huge flattish stone resting on three stones set upright, of which we have so many examples in Great Britain, is not represented in Japan excepting where a group of dolmens has been long used as a quarry for building stones.

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The Structure of Dolmens.

All the dolmens of Classes I. and II., and generally those of the others, are constructed of rude unhewn blocks, often weathered boulders just as taken from the mountain sides; but in some localities, where, there is an outcrop of suitable rock, some or all of the stones seem to have been roughly quarried, their natural shapes due to geological jointing and bedding being preserved. In other cases they appear to have been broken, although in only three instances have I found the marks of the wedges used in splitting them. Frequently when one of their surfaces is flat they are placed with that side inwards. The stones are laid in the walls very rudely, according to their shapes, the large interstices between them being filled with others of smaller size. Traces of a clay filling are sometimes found in the narrower joints, but no mortar or calcareous cement was ever used.

In many dolmens the sides are built roughly parallel, but sometimes gradually widen out about the middle of their length, and generally converge towards the mouth. They are always inclined inwards towards the roof, so that this is usually from one to four feet narrower than the floor. The roof has often a more or less downward slope towards the entrance.

The walls are very often, yet not always, megalithic, but whatever their structure may be the roof stones are always huge and ponderous. The capstone over the entrance to the chamber, and one or more stones in the back wall, are also often of very large dimensions. The walls even of those of comparatively late date, are never plastered or coloured, but the surfaces of the stones are left entirely bare. No stones bearing inscriptions, ornamental designs, or "cup-marks" have ever been found in any dolmen.

Besides these rude stone structures, dolmens carefully built of hewn blocks also occur; they are, however, not common, are usually of Class III., and will be described with the examples of that type.

The structure of the great majority of dolmens is well illustrated in Plates XXXVIII. and XXXIX., and figs. 5, 6, and 8.

Fig. 5 represents the interior of a dolmen at Tsukahara (Settsu) (Table I. No. 98). The chamber measures 14 feet 8 inches long, 5 feet wide, and 7 feet high, and is entered through a gallery 11 feet long. It is built entirely of more

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or less weathered boulders, and, although of Class II., represents accurately the structure of the rude forms of Class I. The convergence of the walls

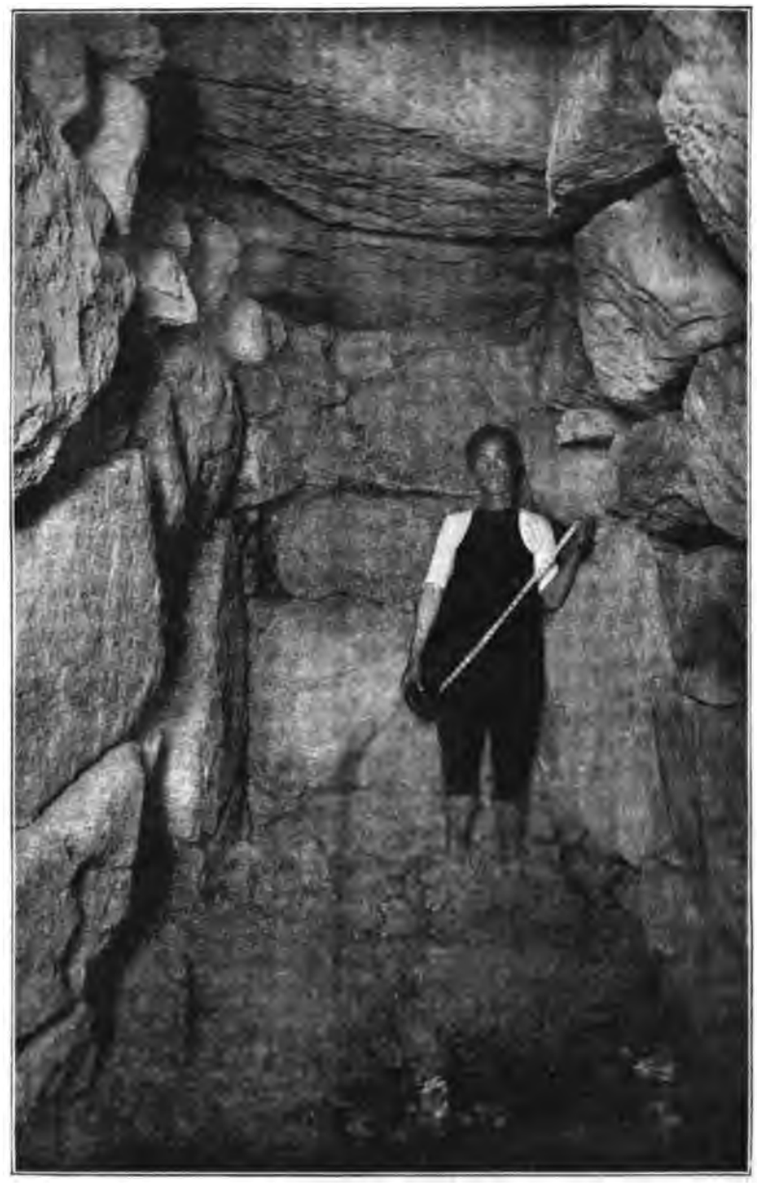

Fig. 5. Interior of Dolmen at Tsukahara (Settsu).

towards the roof is well seen in this example. It is covered by a simple conical mound.

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Fig. 8. A dolmen at Abe-mura (Yamato) (No. 129 in Table I.) of still larger stones than the preceding.

Plate XXXVIII. fig. 1. The interior of a dolmen at Hattorigawa (Kawachi). This photograph was taken from the interior looking outwards, to illustrate the massive lintel stone and the large block forming the right boundary of the chamber.

Plate XXXVIII. fig. 2. A dolmen in the same group as the last, showing its entrance, the mound by which it is covered, and the roof of its chamber cropping

Fig. 6. Interior of Dolmen at Koshi (Yamato). (See fig. 13.)

out from the summit of the mound. Most dolmens in conical mounds closely resemble this in external appearance.

Fig. 6. The interior of a hewn-stone dolmen at the village of Koshi (Yamato).

Plate XXXIX. fig. 1. An external view of a dolmen at Myōhōji (Kawachi). The inner surface of the stones of this dolmen are all carefully dressed, the outer being left in their natural state.

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FIG. 2. EXTERNAL VIEW OF DOLMEN AT HATTORIGAWA (KAWACHI), JAPAN

FIG. 1. INTERIOR OF DOLMEN AT HATTORIGAWA (KAWACHI), JAPAN

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Plate XXXIX. fig. 2. The exterior of a dolmen at Dōmyōji-yama (Kawachi), from which the greater part of its mound has disappeared. The capstone of the chamber measures 10 feet in length, 8 feet 6 inches in breadth, and 6 feet in thickness.

Here I should like to say, by way of caution, that the rudeness of structure seen in certain groups of dolmens in Japan does not necessarily indicate extreme antiquity, as it is so largely dependent on the nature of the rocks in their vicinity. Thus for example, in the province of Ōmi, where the granitic rocks are so jointed that the blocks lying on the hill sides are in the form of huge slabs, we find the dolmens with well-built walls. In other provinces, where weather-worn rounded blocks of granite, or angular masses of palæozoic rocks alone are available, dolmens with narrow chambers or walls of the rudest construction only occur, as with such materials no other structure was possible. Yet the latter are not older than the former, as they all contain similar remains. One which I found near Tsukahara (Settsu) was of an elongated beehive shape, simply because rolled stones from the bed of the adjacent river were used for its walls, and this was the easiest form to construct with them.

Some characteristic types of each of the four classes of dolmens will now be considered.

Class I.

These dolmens, as will be seen from fig. 1, are simply covered galleries without a specially defined chamber, a form common in France and on the west of the Caspian Sea. Although they are never built of hewn stones, they are not of ruder structure than many of the higher forms of the other three classes, and are certainly often contemporaneous with them.

One which I found near Hamada (Iwami), (Table I., No. 22) is a good representative of this class. It is covered by a conical mound which rises about 9 feet 6 inches above the inner surface of the roof. Its stones are all rough excepting one, and this has been rudely recessed to allow another to fit into it. None are very large, the largest being one of the roof stones (9 feet by 7 feet by 2 feet 6 inches).

The dimensions of the dolmen internally are: length, 21 feet; breadth at back, 5 feet 9 inches, diminishing to 5 feet at the mouth; height, 5 feet to 5 feet 9 inches.

According to the villagers, it has always been standing open, and I hence found nothing in it.

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This form of dolmen I have also met with in the provinces of Mino, Kawachi, and Bizen, and one was reported to me in Toza. (*See* Table I.)

Classes II. and III.

The dolmens of these classes may be conveniently studied together as they are found intermingled in nearly every important group. In all we have a more or less well-defined approximately rectangular chamber, longer than broad, entered through a gallery of varying length. In Class II. either the east or the west wall of the chamber is in a continuous line with one wall of the gallery, the division between chamber and gallery being only marked on one side. In Class III. there is a perfectly distinct chamber, the gallery entering it on the median line.

This division between chamber and gallery is formed not only by stones projecting from one or both walls, but also by one of the roof stones, generally of a very massive character, being placed at a lower height than the others, and so forming a rude lintel over the entrance to the chamber (figs. 9 and 14 and Plate XXXVIII. fig. 1). The height and breadth of the entrance so formed is in most cases not much less than those of the gallery. Dolmens with a gallery continuous with their west side are seldom seen, whilst the opposite form is common.

Those with a perfect chamber (Class III.) are by far the most numerous of all in every province of Japan excepting Kawachi, where there seems to have been a preference for the one-sided form, not however to the complete exclusion of the other.

All the dolmens of Class II. which I have explored are, with one exception in Izumo, of the same rude structure that I have already described; but those of Class III., whilst being also generally rude, are sometimes built of well-hewn blocks. In the capacity of their chambers neither class differs much from the other, although the largest I have found is one of Class III.

The orientation of Japanese dolmens generally may be conveniently described here, as it is well illustrated in these two classes. In common with the rude stone monuments of other races, they are built as a rule in a definite direction, and, whether they occur singly or in groups, have almost always an approximately southern aspect. (*See* Table I.)

In most provinces, especially Kawachi, Yamato, Tamba, and Bizen, great importance appears to have been attached to this aspect, as I have observed there so many examples in which, in order to obtain it on the slopes of some of the

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FIG. 1. FRONT VIEW OF DOLMEN AT MIYŌHŌJI (YAMATO), JAPAN

FIG. 2. DOLMEN AT DŌMYŌJI-YAMA (KAWACHI), JAPAN

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hills, the difficulties of construction must have been enormous, whilst with another bearing there would have been none. But even in these provinces there are one or two dolmens in some groups in which there is a departure from the general rule, the reasons for which are not evident. On reference to Table I. it will be seen that seven in all are noted,[a] six of which have approximately western aspects, and one bears N.N.E. In Hōki and Izumo three are directed towards W.S.W.

The province of Iyo is exceptional; there there is no uniformity, and they face almost every point of the compass. (Table I. Nos. 28 to 35.)

The reasons which have been advanced for the southern aspect of tombs are well known to archæologists, and need not be adduced here. I may, however, say briefly that in Japan its origin has probably some basis on the ancient sun-worship, of which there are many survivals in the country. The influence of the sun was believed to be beneficent to the spirits, hence these chambers of the dead were directed towards its meridional position.

The dolmens of Class II. are covered by mounds which are generally of simple form. Those of Class III. are found in mounds of every kind.

The mound which is of most frequent occurrence is of a simple conical shape, rising from a circular or oval base, sometimes with a flat top, and often so much weathered that it barely covers the dolmen, the capstone of the gallery mouth, and part or even the whole of the roof, and occasionally the walls, of the chamber being exposed. These mounds vary in diameter from about 15 feet in some of the diminutive dolmens of Mino to about 90 or 100 feet in those of larger size in Kawachi and elsewhere. All I have examined are composed of the earth of the locality excepting at Matsushiro (Shinano), where there is a large cairn (height 23 feet, diameter 105 feet) of angular stones, without earth, which is said to contain a dolmen.

In these simple mounds, and in these only, except in a few rare cases, the floor of the dolmen is on the same level as the natural surface of the ground in front of it. In all others it is raised to a greater or less height above it.

In fig. 7, is given a sectional elevation and a plan of a dolmen of Class III. covered by one of these conical mounds. This dolmen is situated on the lower slope of the range of hills near Shiba (Kawachi), a little to the north of the chief dolmen groups of the province. It is of considerable interest, as I obtained from its chamber an important collection of metallic and other objects, which are now in the British Museum and will be described subsequently.

The long diameter of the mound measures 94 feet. Its top rises about 5 feet

[a] Table I. Nos. 5, 50, 51, 79, 107, 111, and 120.

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above the inside of the chamber roof. The chamber is somewhat irregular in plan, exhibiting a departure from the normal approximately rectangular form, one side being 13 feet 8 inches long, and the opposite only 11 feet 8 inches, and the back 10 feet 5 inches wide, whilst the front is only 7 feet 11 inches. Its height is 10 feet 3 inches.

The walls are built of rough stones from the hill side of varying sizes and shapes very rudely fitted together, leaving large gaps between them which are filled with smaller stones. They converge more than is usual towards the roof, hence three stones of only moderately large size suffice to cover it.

A pavement of flat irregularly broken natural slabs forms the floor of the

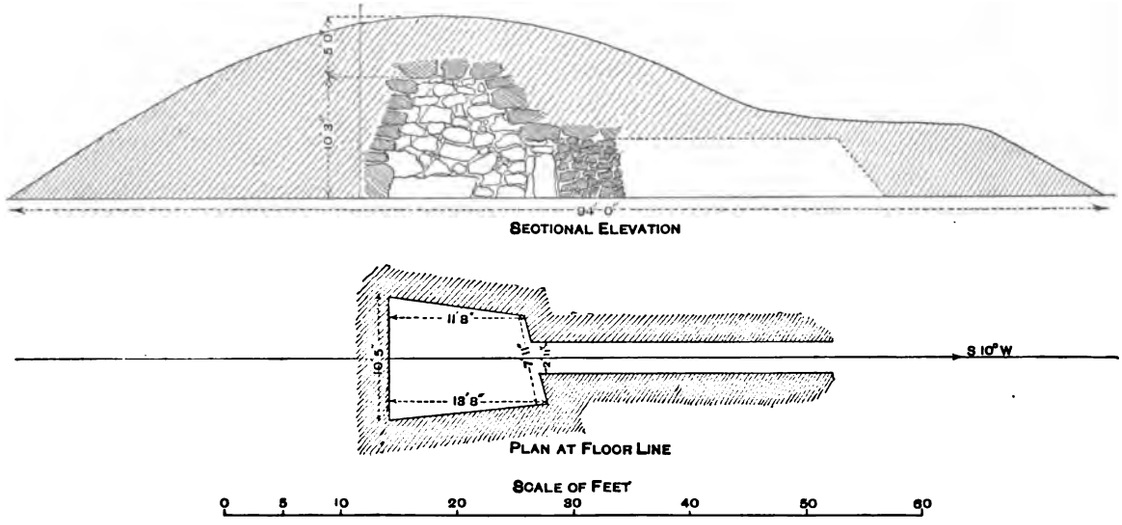

Fig. 7. Dolmen at the village of Shiba (Kawachi).

chamber, a feature of uncommon occurrence. Generally the floor of a dolmen consists simply of the ground on which it is built, or of one or more layers, several inches in thickness, of waterworn stones or pebbles spread over the entire bottom of the chamber. In a few I have found remains of a bed of beaten clay of such hardness that it seemed to be a kind of cement, but on analysis it yielded no lime.

The gallery, which is about 24 feet long, 5 feet high, and 3 feet wide, enters the chamber at the middle of the south end. It is closed here by a wall of stones, not less than 5 feet in thickness, built across it. I may say here that I obtained access to the interior of this dolmen through a gap below one of the roof-stones, and after completing my exploration of the chamber I attempted to explore the gallery, but

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on removing about 4 feet of the stone wall the end of the chamber began to collapse and operations had to be suddenly suspended. In other dolmens I have found a similar wall built across the gallery to prevent access to the chamber.

In a large dolmen at Enya near Imaichi (Izumo) this wall is constructed of hewn blocks laid between the portal stones at the junction of the chamber and gallery; whilst at another, also in Izumo, it is built of round stones 8 or 9 feet distant from the same point. In rare cases the mouth of the gallery was closed by a single large stone. At the present time most are open or full of earth only.[a]

Whether a dolmen was allowed to stand partially open or not for some time after the body had been placed in it cannot be determined with absolute certainty, but the position of the above wall, as well as the well-defined step in the roof of the gallery of some, would seem to mark off part of the gallery for a special purpose.

The occurrence too in this part of ceremonial vessels in many dolmens, and of a second chamber in others, tend to support the view that partial access was possible for the presentation of offerings and libations to the manes of the dead subsequent to the performance of the funeral rites. Similar offerings seem to have been made still later outside the mound, as fragments of the same pottery are not unfrequent there. At the present day these ceremonial rites in honour of the dead still survive in the prayers and sacred dances accompanied by offerings of the products of the mountain, river, and sea which are held periodically in front of some of the imperial burial-mounds.

Another example of Class III. is a megalithic dolmen, containing a stone sarcophagus, near the temple Monju-in at Abe-mura (Yamato) (Table I. No. 129). In the grounds of the same temple are two others, one of which is built of hewn masonry.

This dolmen (fig. 8) is a fine specimen of megalithic structure, and is one of the few remaining in this province which still contain a hewn stone sarcophagus. Several of the stones both of its walls and roof are of a very large size; the hinder roofstone being about 10 feet long by 11 feet broad, and one or two others are of similar dimensions. The total length of the dolmen from its entrance to the back wall of the chamber is 38½ feet; the chamber being 14 feet 8 inches long, 8 feet 3 inches broad, and 6 feet 11 inches high; and the gallery 23 feet 9 inches long, 6 feet 5 inches broad, and 5 feet 3 inches high.

[a] In a dolmen at Ashikaga (Shimotsuke) opened by Prof. Tsuboi, access to the chamber had been effectually prevented by filling it up to the roof with small round stones.

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In the middle of the chamber, placed longitudinally, is a sarcophagus of carefully hewn stone (Table II. No. 26), the coffer and the cover being each cut out of a single block. The former, measured externally, is 7 feet 10 inches long, 4 feet 9 inches broad, and 3 feet 1 inch deep. I was not allowed to remove the cover, so that its internal capacity is doubtful, but if we compare it with others I have measured (Table II.), the cavity for receiving the body would be approximately 6 feet 2 inches long, 3 feet 1 inch broad, and 2 feet 1 inch deep. Both coffer and cover are of a very ponderous character. The cover alone, which overlaps the coffer about $1\frac{1}{2}$ or 2 inches, and is 2 feet 1 inch in thickness, is not

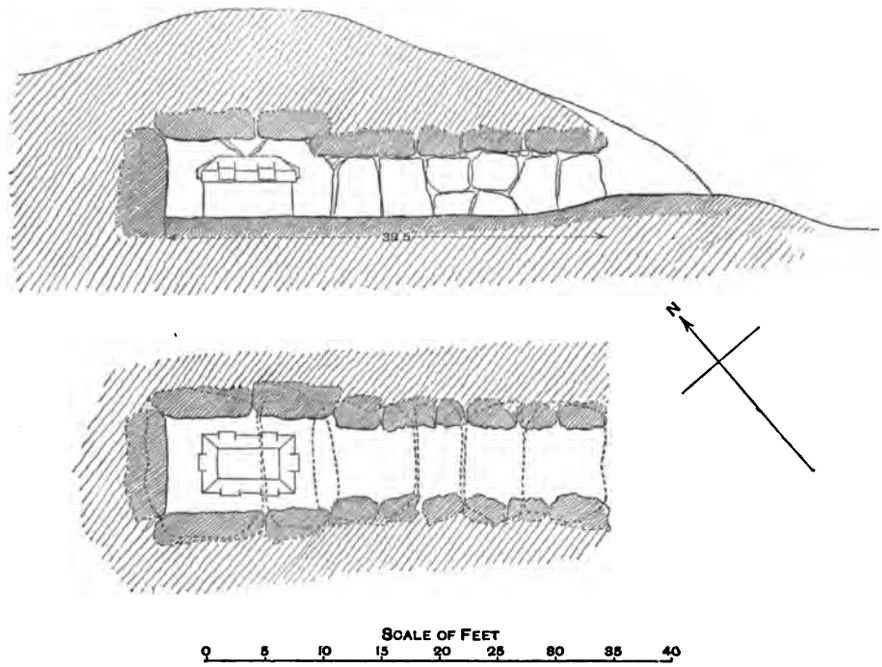

Fig. 8. Dolmen containing a hewn-stone Sarcophagus at Abe-mura (Yamato).

less than 4 tons in weight. The projecting lugs seen on its sides and ends are intended for the attachment of ropes for lowering it into position.

Burial in stone sarcophagi placed in the chamber of a dolmen seems to have been not infrequent, and although I have only found twenty-four (Tables I. and II.) in all the dolmens I have explored, yet doubtless many, especially those of less massive character, have been removed by the farmers and broken up for building stones. In two places, in fact, I have found their covers used as bridges, but no trace of their coffers.

This sarcophagus is a typical specimen of the Japanese stone sarcophagi which are hewn out of solid blocks, although in dimensions and a few details of

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construction we find considerable variations. Other stone sarcophagi constructed of hewn slabs are also found in dolmens, but they are of less frequent occurrence than the preceding. Besides these others of wood and terra-cotta were also in use.

In a rude megalithic dolmen at Mi-no-hara (Settsu) I found two sarcophagi (Table II. Nos. 21 and 22) in its chamber, one being of hewn blocks and the coffer of the other of hewn slabs, so that both forms were contemporaneous. In the chambers of the dolmen at Imaichi (fig. 14) there is also one of each type.

Particulars of these sarcophagi and of others I have found are contained in Table II.

All the dolmens I have thus far described are contained in conical mounds

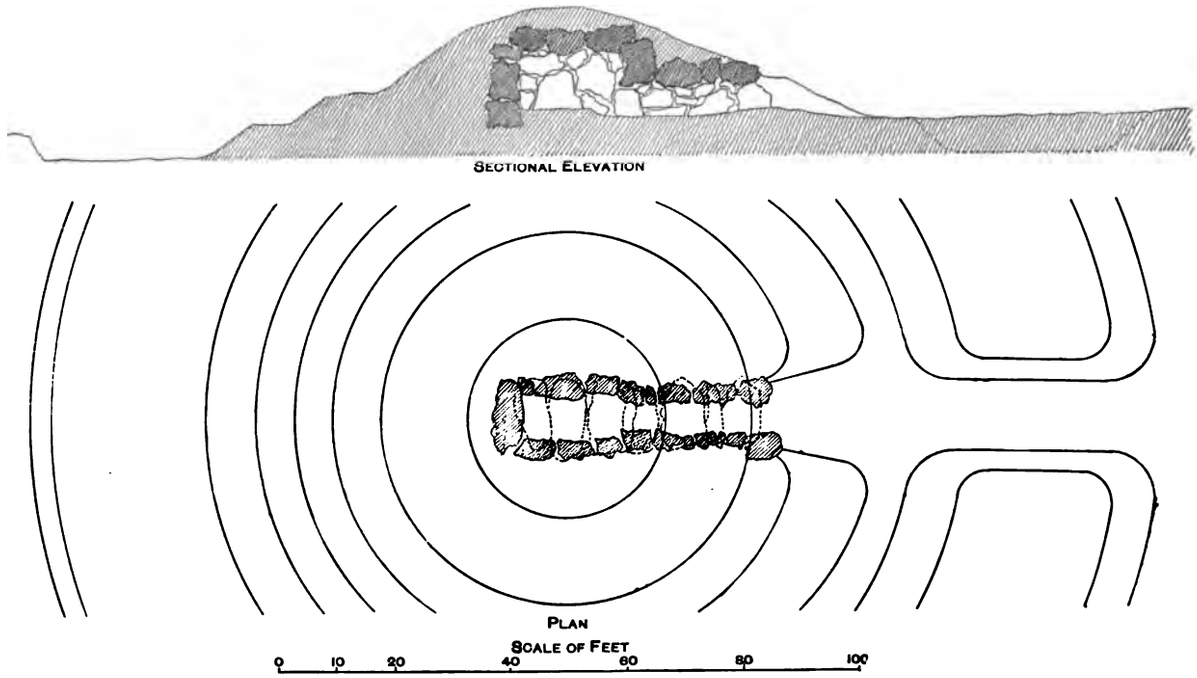

Fig. 9. Dolmen at Andogahashi (Yamashiro).

with straight sloping sides, but this simple form of mound is sometimes departed from probably on account of the rank of the person buried in the dolmen chamber. In these cases, whilst the general conical form is preserved, the sides are not straight, but are formed of one or more well-defined terraces. These mounds are usually of large size varying from about 80 to 200 feet in diameter, and from 20 to 25 feet in height. They are frequently surrounded by a moat, and sometimes have a rectangular base. A typical specimen with two terraces, with the dolmen contained in it, is represented in fig. 9. It is situated at Andogahashi (Yamashiro),

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forming one of a group of about sixteen dolmens which are scattered around the village. The long diameter of the mound is 132 feet, its short diameter 124 feet, its height 25 feet, and it is surrounded by a moat 28 feet wide.

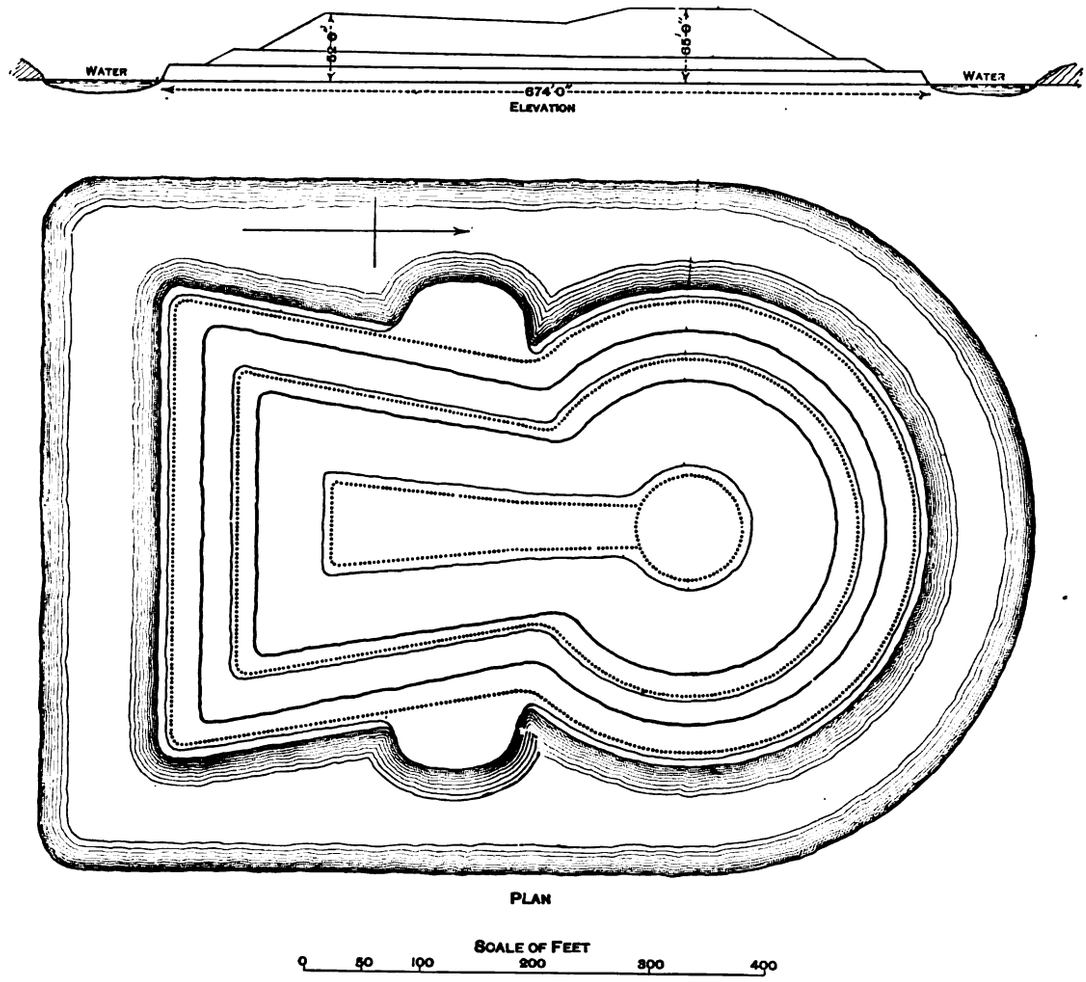

Fig. 10. Double Mound near Nara (Yamato). (The dotted lines on the plan represent the positions of the rows of terra-cotta tubes.)

The dolmen (Table I. No. 115) is of Class III., rudely built of irregular unhewn blocks of a hard palæozoic clay slate. In its walls and roof there are several megalithic boulders; one of which is the lintel stone. The total length of the dolmen from its entrance to its back wall is 44 feet, its chamber being 18 feet long, 8 feet 5 inches broad, and 11 feet 4 inches high, and its gallery 26 feet

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2 inches long, 5 feet 2 inches broad, and 5 feet 8 inches high. Its floor is on the same level as the top of the first terrace. No traditions are attached to it, although it is the most important dolmen in the province, and according to the villagers it has always been open and nothing has ever been found in it.[a]

Another class of mounds, generally known as "imperial burial-mounds," and sometimes containing dolmens, is of more than usual interest, as, so far as my knowledge goes, no mounds even remotely resembling them occur in any country except Japan. From their form they may be not inaccurately termed "double" mounds, although they never contain more than one dolmen Unlike those we have already considered, they are almost always situated on the plains, a few only being found on the level parts of upland plateaus. Fig. 10, which is drawn from my surveys, represents a typical one in the neighbourhood of Nara (Yamato). Although it is of considerable size it is not one of the largest, yet I have selected it for description, as it is in a better state of preservation than any others I have seen. I was also able to go upon it and make careful measurements, as it had not, until I called attention to it, received official recognition as an imperial tomb; whereas in other cases this was prohibited, and I had then to make my observations from outside the moats.

As seen in plan it appears to consist of a circular mound combined with another intermediate in form between a triangle and a square. But as there are no triangular mounds in Japan, and no symbolic use of the triangle until comparatively late times, I think, the form may be regarded as a combination of a circular with a square mound. This curious shape is doubtless not without symbolic meaning, yet Japanese archæologists have not been able to give any satisfactory interpretation of it. The circular end rises in the form of a truncated cone forming a flat peak 113 feet in diameter at its summit, and this is always the highest part of these mounds. The square end, on the other hand, has no distinct peak, its summit being an inclined plane also flat, about 215 feet long, rising at a gentle angle from the inner slope of the conical peak and terminating

[a] The other typical examples of dolmens with terraced mounds which I have examined are the following, all with only one terrace:

At Ōkamedani (Yamashiro) (Table I. No. 116), mound 74 feet long diameter, 20 feet high. No moat.

At Tsuma-machi (Hyūga) (Table I. No. 18), mound 126 feet long diameter, 20 feet high. Moat 35 feet broad.

At Habikiyama (Kawachi), mound 210 feet long diameter, 196 feet short diameter, 25 feet high. Moat 48 feet broad.

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in a long straight edge, 90 feet long, at right angles to the middle line of the mound.

Some of these mounds, especially when seen from a distance, appear to have two peaks, and from this feature the name "futa-go.yama" or twin hills[a] has been applied to them, but on examining them closely I have always found that there was only one original peak, and that the other had been formed by the excessive weathering of the narrower part of the square end.

The word 皇陵 *Misasagi* (or *Teiryō* Ch.), is often applied to them as a specific name, but this is not strictly correct, as its meaning is merely "imperial mausoleum," and in that sense is used for all imperial tombs of whatever form, whether they are mounds or not.

The burial, whether in a dolmen or sarcophagus, invariably took place in the round part of the mound. In the square part no remains of any interment have ever been found, but on its surface, fragments of ceremonial vessels sometimes occur, indicating that some of the funeral or subsequent rites were celebrated there. The chief dimensions of this mound are as follows:—

Total length of base	674 feet
Extreme breadth of square end . . .	425 „
Diameter of round end	420 „
Height of conical peak	65 „
Height of terminal edge of square end . .	52½ „

The relative proportions which these measurements bear to one another differ in nearly every one of these double mounds, so that, although they are all of the same fundamental type, yet in exact outline and plan they present considerable variations.

They have usually terraced sides. In the example shown in the diagram there are two well-formed terraces completely encircling it. In some smaller mounds there is only one terrace or none, but in those of the largest size there are often three, sometimes four.

[a] Other names by which they are popularly known are:

Hyōtan-yama = Hill resembling a bottle gourd.
Samisen-dzuka = Mound of the shape of a Japanese lute.
Cha-usu-yama = Hill of the shape of a mill for grinding tea.

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At the re-entering angle on each side, a projection, about 55 feet broad, now generally of irregular form, but probably originally semicircular, extends from the lowest terrace into the moat, and upon this there is generally a low circular mound.

The moat has an average breadth of 100 feet, and completely surrounds the mound. Nearly all these double mounds possess a wide moat, although some from their position on sloping ground are not surrounded by one. Others, as the huge mound of the Emperor Nintoku (Izumi), and another also of vast size, near Fujiidera (Kawachi), had two moats encircling them. Around the outer embankment of the moat of several of the larger mounds small conical mounds are ranged at varying distances apart.

A curious feature which they all possess is the rows of terra-cotta tubes, termed *haniwa*, with which the borders of their summits, terraces, and moats are fringed. One of these tubes is represented in fig. 11. It is 1 foot 1 inch to 1 foot 3 inches in diameter, 1 foot 5 inches long, and about $\frac{1}{2}$ to $\frac{3}{4}$ inch thick, and is strengthened by three horizontal ridges encircling it. Two holes, 2 inches in diameter, are pierced in it opposite each other near its middle.

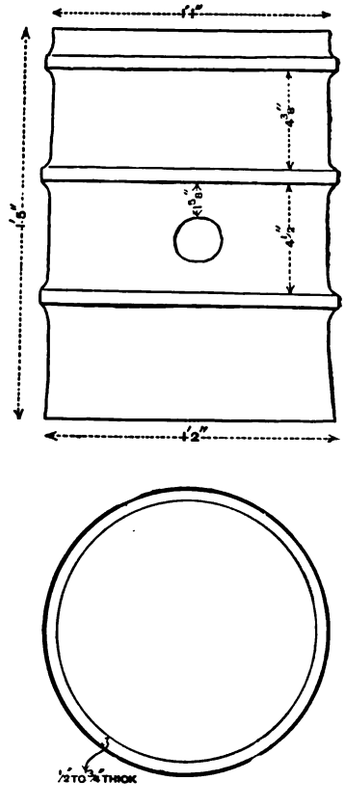

Fig. 11. One of the terra-cotta tubes on the Double Mound near Nara.

In each row these tubes are set upright, from 3 to 6 inches apart, with the holes at right angles to the mound, and are almost completely buried in the earth, about an inch or so only being exposed. On this mound the row which encircles the entire summit is 8 feet, that on the upper terrace only 4 feet from the edge. On the lower terrace the tubes are exposed, and are being washed away by the water of the moat. The total length of the rows, if placed in a straight line, would exceed $1\frac{1}{3}$ mile, whilst the number of tubes, at the lowest possible computation, is not less than 4740, exclusive of those on the outer embankment of the moat.

It is difficult to determine, with absolute certainty, the exact intention of the early Japanese in using these rows of terra-cotta tubes. It may be that they were placed in the positions we have seen, for structural reasons, to aid in preserving the form of the summit and terraces of the mound and the embankment of the moat

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from being destroyed by weathering, but, if so, it is not obvious why they were ever buried as far as 8 feet from the edge they were intended to protect.

On the other hand, as I have already advanced, they may have been intended to represent the retainers who in earlier times were immolated on the mound, but to this it may be objected, that they would then have borne at least some rough resemblance to the human form, or some indications that they represented it. They occur, too, on mounds upon which rude terra-cotta human figures (figs. 40, 41) have been found along with them. Possibly there may be some truth in both suppositions.

The largest double mounds are situated in the provinces of Izumi, Kawachi, and Yamato, but many others of smaller but still imposing size I have also found in the provinces of Kōtsuke, Settsu, Hōki, Izumo, Yamashiro, Bizen, and Hyūga. They vary in dimensions from a diminutive example, Yoroidzuka, "the armour mound" in Hyūga, only 125 feet long and 18 feet high, to the stupendous piles officially recognised as the tombs of the Emperors Nintoku[a] and Richū[a] in Izumi, and Ōjin[a] in Kawachi, none of which are less than 1,200 feet in length and 60 feet in height. The first of these three is specially noteworthy for its vast extent, being about 90 feet high, and with its moats, covering about 80 acres of ground.

The manner in which the dead were disposed in these double mounds is by no means uniform. The greater number do not contain a large chambered dolmen, but only a sarcophagus of stone or wood not very deeply buried in the round peak. This I have found in some cases surrounded with a low wall of stones, over which larger slabs were laid; in others these walls are wanting, and huge boulders then seem to have been simply placed over the coffin.

One of the largest and most noteworthy of those containing a dolmen (fig. 12) is situated in the village of Mise, in the most classic region of the province of Yamato. The vast proportions of this mound, and the magnitude of the dolmen within it, exemplify well the importance which the early Japanese attached to the sepulture of their illustrious dead. It is much dilapidated, as, with the exception of the irregularly rounded mound which originally formed its eastern peak, it has been long under cultivation and is entirely clothed with terraced fields. Yet, on

[a] The approximate dates of the deaths of these emperors, according to Japanese records, are as follows:

Ōjin 310 A.D.
Nintoku 399 A.D.
Richū 405 A.D.

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account of its vast bulk, agricultural operations have failed to destroy altogether the chief features of its original form.

The mound, when first erected, cannot have been less than 1,000 feet long and 600 feet broad, although now it is slightly smaller, and the peak is 84 feet high. Fig. 12 represents it in longitudinal elevation, and in transverse sectional elevation through the dolmen, and brings very forcibly before us the comparative insignificance of the dolmen when contrasted with the vast dimensions of the mound.

The dolmen is situated below the round peak and lies within the mound at right angles to its long axis, on a level with the second terrace, and 20 feet above the present ground line. This, with rare exceptions, is the position occupied by

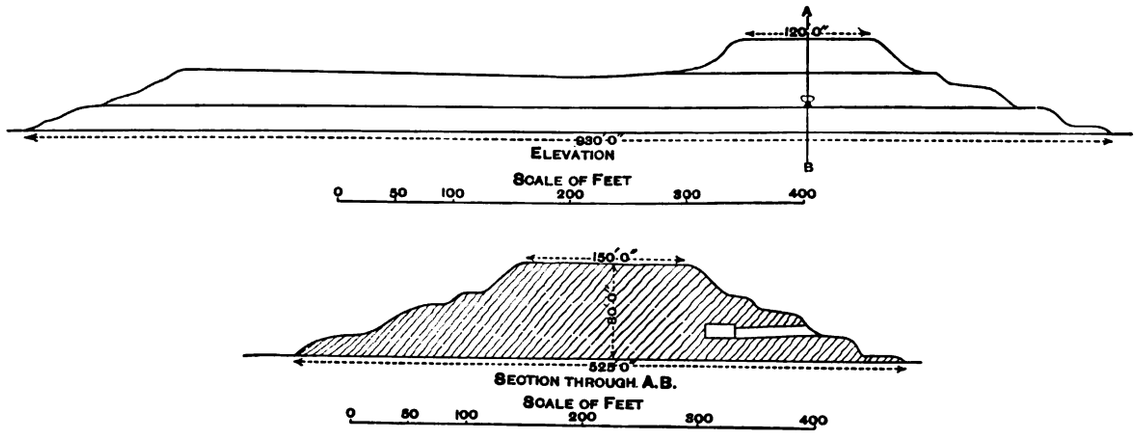

Fig. 12. Double Mound at Mise (Yamato).
In the elevation the entrance of the dolmen is seen in the side of the mound below the peak.
The transverse section shows the position of the dolmen within the mound.

dolmens in all mounds of this form. It is the largest dolmen I have found in Japan. The gallery is about 60 feet long, 8 to 10 feet high, and of variable breadth of from 4 to 8 feet. Its roof consists of six huge undressed stones, one of which is 16 feet long. Its walls are built of similar cyclopean blocks, all of the rudest irregular forms. I was, unfortunately, only able to penetrate about 40 feet into the gallery when the depth of water and mud which had accumulated in it became too great for any further advance, so that I did not reach the chamber, but, so far as I could see it, it seemed to be of the same structure as the gallery. There are two sarcophagi of hewn stones within it, one placed transversely against the back wall and another longitudinally near the middle; a portion of the cover of the latter only was just visible above the water. The dimensions of the chamber are

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given in the *Sei Sekki Dzu Shi*[a] as, length about 24 feet, breadth 18 feet. These measurements, however, must be received with some reserve, but the chamber is certainly a large one.

For some time it seems to have been recognised as the tomb of the Emperor Mommu (died 686 A.D.) and the Empress Jitō (died 782 A.D.), but there are no grounds for such attribution, and it is without doubt of a very much earlier time, probably not later than the beginning of our era.

The smallest double mound which I have found containing a large chamber is one of a rather extensive group of dolmens with simple mounds which is scattered over the lower slopes of Mount Kazuraki, near the village of Teraguchi (Yamato). The mound is 167 feet long and 32 feet high. The dolmen (Table I., No. 123) is the largest in the group, and both gallery and chamber are of rude megalithic structure. Its total length is 46 feet 6 inches, the dimensions of its chamber being: length, 20 feet 6 inches; breadth, 9 feet 10 inches; height, 11 feet 9 inches; and of its gallery: length, 26 feet; breadth, 5 feet 10 inches; height, 6 feet 10 inches. Its position in the mound is abnormal. In common with all others it is situated below the round peak, but, instead of being at right angles to the long axis of the mound it is in a line with it. Fragments of the same pottery which is found in the normal forms also occur in it, so that it may be regarded as being contemporaneous with them.[b]

That the large double mounds are the tombs of men of the highest rank or of pre-eminent power is, I think, not open to doubt. None else could have been honoured by the erection of burial mounds of such stupendous size and extensive area. Their vast bulk implies the labour of many hundreds of men for a considerable time for their construction, and this only a chief with supreme power could command.

According to Japanese archæologists, the earliest is the tomb of the Emperor Annei (c. 4th century B.C.), and the latest that of Bidatsu (died 585 A.D.). Whilst not accepting the strict accuracy of these dates, there seems to be no reason to doubt that several are as early as one or two centuries before our era,

[a] A Japanese treatise on burial-mounds and tombs, published 1853.

[b] Several examples of dolmens in large double mounds intermediate in size between those just described occur in other provinces; of these the most important I have examined are the burial mound attributed to the Emperor Keitai (died 531 A.D.) at Otā (Settsu), one near Imaichi (Izumo) which will be considered later, and another near Ōmuro (Kōzuke) (Table I. No. 81). The last had been previously visited by Sir E. M. Satow, who gave an account of it in the *Transactions of the Asiatic Society of Japan*, viii. 313.

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and that they continued to be built for five or six centuries afterwards. During this range in time nearly all the emperors, who are mentioned in the ancient books, the *Kojiki* and the *Nihongi*, and many others whose names are not recorded and whose existence has been forgotten, were probably buried in these double mounds. But, as I have already pointed out, I have also found these mounds of imperial form in the important dolmen districts of Izumo, Hōki, Bizen, Kōtsuke, and Hyūga, which are remote from the central provinces the seats of the recognised emperors. This would seem to indicate that these regions were once independent centres, or were governed by chiefs who were regarded as equals with the central ruling family.

According to the statements of Japanese records, the care of the Imperial tombs was intrusted to special resident officers from very early times, a custom surviving at the present day. But the appointment of custodians was frequently discontinued, sometimes for a considerable time; the mounds were then neglected, and their sanctity was disregarded, and it is probably owing to this that many are now under cultivation, and, with numerous others, are not recognised as imperial tombs. Yet, notwithstanding these breaks in the regular succession of custodians, it is not unreasonable to suppose that the most important mounds, those which from their imposing size form such conspicuous objects on the plains, would not altogether lose the early traditions attached to them, and would at least retain the names of the emperors whose tombs these traditions indicated them to be. If any reliance may be placed on this supposition, then the enormous mounds of Nintoku, Richū, and Ōjin may be considered to be the tombs of the emperors whose names they bear, although in the great majority of lesser magnitude the attribution will be doubtful. From this it follows that the building of double mounds reached its zenith about the fourth century of our era.

Besides the dolmens of Class III., which are constructed of rude stones and boulders untouched by the chisel, there are several remarkable examples[a] in which both walls and roof are partially or wholly built of blocks more or less perfectly hewn.

An important dolmen of this structure in an ordinary simple mound occurs on the lower slope of the hills on the west of the Kurayoshi plain, in the province of Hōki.

The chamber and gallery are of the same breadth, 10 feet 3 inches, and they are only separated from each other by two roughly-dressed portal stones, which are both irregular in size and position. The length of the chamber is 12 feet 6 inches, and its height at its highest part 9 feet 7 inches.

[a] Table I. Nos. 20, 21, 37, 38, 39. 114, 117, 119, 127, and 128.

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The stones of both the walls and roof are all dressed moderately flat on their exposed surfaces, and the walls especially afford a good example of early squared cyclopean masonry with carefully made joints and without mortar. A point worthy of note in its construction is the evident endeavour of the builder to preserve as far as possible the huge size of the two largest stones in the east wall, these have hence not been hewn square, but their angular portions where they did not meet have been cut into squared recesses into which small blocks were fitted.

This dolmen is also interesting as it is one of the few which contain a cist of rudely-shaped slabs. The cist, too, is the largest I have found, although it is exceeded in size by a hewn-stone sarcophagus in a dolmen in the next province. Its internal dimensions are: length, 7 feet 2 inches; breadth, 3 feet 10 inches; and depth, 4 feet 4 inches. The front slab has been broken, but part of it is still in the chamber.

The dolmen was evidently the tomb of a powerful chief, and a capacious cist was needed to contain the armour, weapons, ornaments, and other appurtenances of the camp and court, which were buried without stint with a warrior's remains.

The roof of the chamber is a single stone, which cannot be less than about 12 feet long, 13 feet broad, and 3 or 4 feet thick.

The next dolmen (Table I. No. 119), also of primitive hewn masonry, is probably of an earlier type than the last, and its structure recalls several examples of Etruscan walling. It is situated at Myōhōji, in Yamato, in one of the most important dolmen districts of the province.

An external view of the front of this dolmen, showing parts of the stones of the gallery cropping out from a much-weathered conical mound is given on Plate XXXIX. fig. 1.

The total length of the dolmen from the entrance to the back wall is 36 feet, and the chamber measures at the floor 16 feet 6 inches in length, 10 feet 6 inches in breadth, and is 9 feet in height. The walls are built in two courses of large blocks of hornblendic granite, squared, and fitted together without mortar. Their surfaces are not dressed flat, but with a slight curvature, and where the corners of adjacent blocks have not met they have been cut away, not as in the last dolmen into square recesses, but obliquely, and a triangular block has been fitted into the gap. The sarcophagus (Table II. No. 23) had been rifled long ago, but on carefully clearing out the earth and stones, which almost filled it, I found a small quantity of vermilion in a slight depression in the bottom. I also found several fragments of ordinary dolmen pottery in the earth of the chamber floor.

A remarkable feature in this dolmen is the roof stone of the chamber. This

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is an immense block of granite carefully dressed on its under surface, but in other parts left in its natural state. It is the largest stone I have found in any dolmen, its extreme measurements being, length 20 feet, breadth 12 feet, thickness 7 feet, and its approximate weight 80 tons.

As late as the seventeenth century it was held to be the tomb of the empress

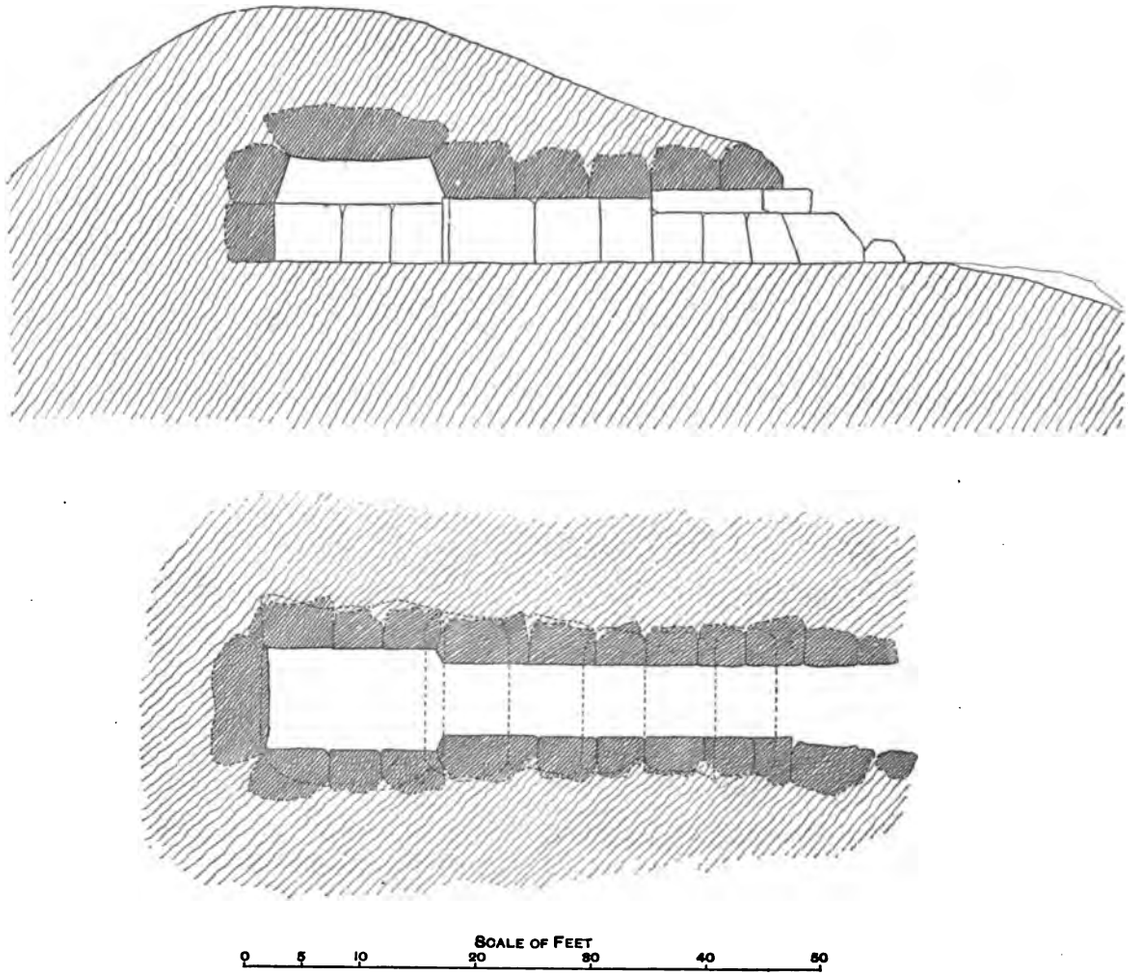

Fig. 13. Dolmen of hewn stones at Koshi (Yamato).

Saimei (died 671 A.D.); but since that time it has not been recognised as an imperial tomb.

A more magnificent example of hewn megalithic masonry, unequalled by any other in Japan for its admirably dressed and perfectly fitted stones, is a dolmen (Table I. No. 127) at Koshi (Yamato) (figs. 13 and 6), about a mile to the south-east of that last described. It is contained in a conical mound with two

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terraces now much cut away on one side to accommodate some of the houses of the hamlet and on the other encroached on by fields. Originally the mound was not less than 160 feet in diameter. Its height is 36 feet.

The dolmen is entered from the upper terrace, which is on the same level as its floor. Its total length internally is 44 feet, but the gallery is prolonged 7 feet further without a roof. The chamber is 15 feet long, 8 feet 10 inches broad, and 8 feet 10 inches high, and the gallery 36 feet 7 inches long, 6 feet 5 inches broad, and at the entrance of the chamber 5 feet 6 inches high. At a distance of 17 feet 10 inches from the chamber there is a step of 8 inches in the roof of the gallery, a feature seen also in some rude stone dolmens, against which a barrier of some kind was fixed to prevent access to the chamber but still allow sufficient space in the outer part of the gallery for the performance of ceremonial rites.

The structure of the interior is also illustrated in fig. 6, representing the gallery.

The stones, which are granite, are very skilfully cut and dressed on the sides presented to the interior of the dolmen, but their backs are as usual left in the rough state.

The roof of the chamber is a single huge block similarly cut, and measuring about 14 feet 6 inches long by 11 feet 6 inches broad.

No local tradition or any imperial or heroic name are attached to this dolmen. The villagers say that it once contained a stone sarcophagus, but they had never heard of any pottery or other remains having been found in it. It is now used by a farmer as a store house, and has been swept out from time to time, hence a most minute search failed to reveal anything to give a clue to its age. Its well-hewn masonry removes it far from the early part of the dolmen age, for many centuries must have been required for the evolution of such a perfect structure from the rudely built dolmens of that time, and would seem to place it not far from the close when dolmen building had reached its utmost development.

Another dolmen (Table I. No. 128) of hewn stones, at Abe-mura (Yamato), probably represents the decadent period in the dolmen building age, as in the construction of the walls of the chamber, which are built of small squared blocks in regular courses, it exhibits a complete departure from the traditions of the early dolmen builders. In fact, the only features it possesses in common with the older structures are the megalithic character of its gallery, and the ponderous stone which forms the roof of its chamber.

We now reach the last of the chief classes of dolmens.

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Class IV.

These dolmens are of a more elaborate form than those of the other classes. They are, however, contemporaneous with many of simpler plan and are, I believe, of earlier date than the hewn stone structures we have just considered. All I have found are, with one exception, constructed of rude undressed stones.

In these dolmens there are two distinct chambers, one behind the other, as well as an entrance gallery.

The outer chamber appears to have been generally used for the performance of the funeral rites, or of subsequent ceremonies in honour of the dead who were placed in the inner chamber, although in the example described below there is a sarcophagus in it also.

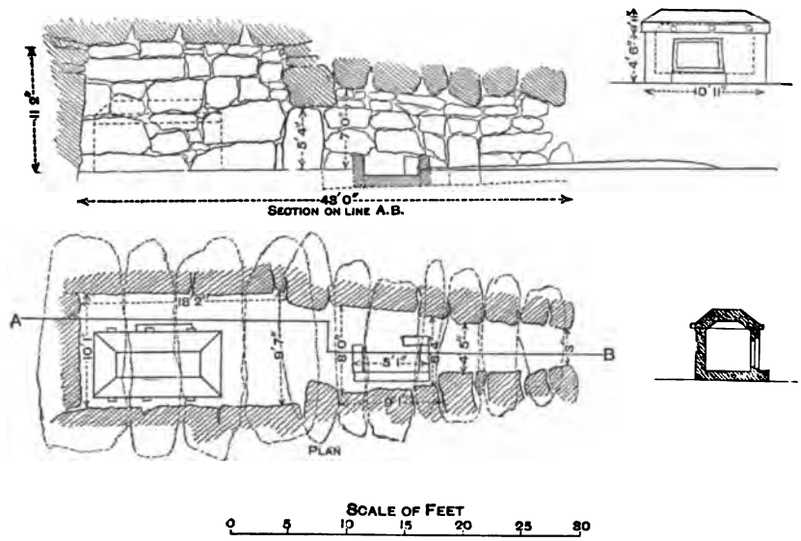

Fig. 14. Dolmen containing two stone Sarcophagi at Imaichi (Izumo).
With Elevation and Transverse Section of largest Sarcophagus.

These double chambered dolmens are of rather rare occurrence, and in all the districts I have explored I have only found six, viz.: one in the central provinces at Hattorigawa (Kawachi), three near Kuroda (Buzen), and two near Imaichi (Izumo).

One (Table I., No. 36) near the Buddhist temple Dainenji in Imaichi (Izumo), is represented in sectional elevation and plan in fig. 14. It is contained in a large double mound 42 feet high, much weathered and cut away, yet traces of two terraces can be distinctly seen. Originally the mound must have been about 300 feet long.

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The dolmen lies as usual under the round peak but in an abnormal position, being in a line with the long axis of the mound instead of at right angles to it. The only other example of a dolmen lying in this direction is that at Teraguche, already described. It is constructed rudely of rough unhewn stones.

The total length is 43 feet, and its breadth, which is 10 feet at the inner extremity, diminishes to 3 feet at the entrance. The inner chamber, which is the most capacious, has the following dimensions: length, 19 feet; breadth, 9 feet 9 inches; height, 11 feet 2 inches. Placed longitudinally in it is a huge sarcophagus (fig. 14), hewn out of a single block of hard volcanic tuff, measuring internally at the top 9 feet long by 3 feet 7½ inches broad, at the bottom 9 feet 4 inches long, 4 feet 5 inches broad, and 3 feet 6 inches in depth. Its cover is of the usual roof-shaped form, with projecting lugs, and is 1 foot 11 inches thick.

This sarcophagus is the largest I have found, and is remarkable also for the curious opening hewn in its front side. The opening is 4 feet 4 inches long by 2 feet 4 inches high, and is recessed to receive a slab by which it was closed. Below it the bottom of the sarcophagus projects in the form of a step, upon which the slab rested. This peculiar feature is seen in three other sarcophagi (Table II. Nos. 8, 9, and 10), in dolmens not far distant, and seems to be confined to the province of Izumo, as it has not yet been found elsewhere.[a] As to the purpose it can have served I am unable to offer any explanation. It is too large to be intended for the introduction of offerings of food, or for the egress or ingress of the spirit of the dead.

The outer chamber is much smaller than the inner, being only about 10 feet long, 9 feet high, and tapering in breadth from 8 feet at the inner end to 6 feet 4 inches at the other. It also contains a sarcophagus (Table II. No. 5), but this is constructed of hewn slabs, and its interior only measures 5 feet 1 inch long, 2 feet 5 inches broad, and 1 foot 10 inches deep. This dolmen was opened in A.D. 1825, when a large quantity of metallic remains were taken out of the large sarcophagus, and many vessels of pottery from both chambers. The metallic objects were straight iron swords, iron spear and arrow-heads, cheek pieces of horse bits, and horse ornaments of iron plated with copper. Several of these, which are still kept in the temple, I examined carefully, but found nothing either in their shapes or ornament to distinguish them from the objects found in single-chambered dolmens.

Two dolmens (Table I. Nos. 13 and 14) of magnificent proportions, of the same type and similar structure as the last, are situated near the village of

[a] For apertures in terra-cotta sarcophagi, see fig. 15.

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Kuroda (Buzen). One, which is slightly larger than the other, alone will be described.

There is nothing special about its mound, which is a simple conical one, abutting against the end of a low spur. The total length of the interior of the dolmen is 68 feet 6 inches, and for a distance of 45 feet 6 inches from its back wall it is roofed with stones of large size. Rude megalithic blocks form the walls of the chambers, and somewhat smaller stones those of the gallery. The dimensions of the inner chamber are: length, 10 feet 9 inches; breadth, 10 feet 8 inches; and height, 12 feet. A granite sarcophagus (Table II. No. 2) hewn out of a single block is placed transversely near the back wall. The outer chamber is much smaller than the other, only measuring 7 feet 4 inches long, 7 feet broad, and 11 feet 7 inches high. According to local tradition, it is the tomb of Haya-hime, a princess of the time of the Emperor Keikō (71 to 130 A.D.), the ruins of whose palace are said to occur on the high ground bordering the neighbouring valley. The valley bears the significant name *Gosho-ga-tani*, *i.e.* the "valley of the palace." The dolmen unfortunately afforded no evidence of its age, as it had been completely rifled, and nothing is known of the objects it contained. All I found in it was a small fragment of a sepulchral vessel of ordinary dolmen pottery. That the district was an important one during the dolmen age is attested by the numerous dolmens, more than a hundred, which are scattered over it.

One of the groups contains the smallest double-chambered dolmen I have met with, its total length being only 16 feet.

Besides these four great classes of dolmens there are several examples of other forms, but most of these may be regarded as mere modifications of them.

A few, however, are of a special character.

One of the most interesting, a modification of Class III., is a dolmen at Rokuya, near Kameyama (Tamba) (Table I. No. 105). The chief peculiarity in its construction is the massive rude stone shelf which projects from the back wall and extends across the whole breadth of the chamber. It is particularly characteristic of the group which occurs near this village, and is rare, although not altogether unknown elsewhere.[a]

The shelf of this dolmen projects 5 feet 3 inches from the back of the chamber, is 1 foot 1 inch thick, and 2 feet 8 inches above the floor. It is built into both

[a] I only know of three dolmens with a similar shelf in other provinces, viz.:
At Yamanouchi, province of Chikugo.
At Asada, province of Chikugo.
At Handa, province of Awa (Island of Shikoku).

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the sides and back walls. In a similar dolmen of this group a long narrow slab of rough stone about 10 inches high is set up across the floor below the edge of the shelf, forming a cist-like space under it. This space was covered with a layer of selected pebbles of black slate, which had been brought from the bed of a river about a mile distant. Upon this layer were lying remains of human bones, beads, and other personal ornaments. This rude arrangement was hence evidently intended to serve the purposes of a burial-cist. In point of antiquity, it might seem at first sight to belong to a very early time in the dolmen age, preceding the use of hewn stone sarcophagi, but the splendid and highly wrought metal objects found on the shelf and in the chamber indicate a much later period.

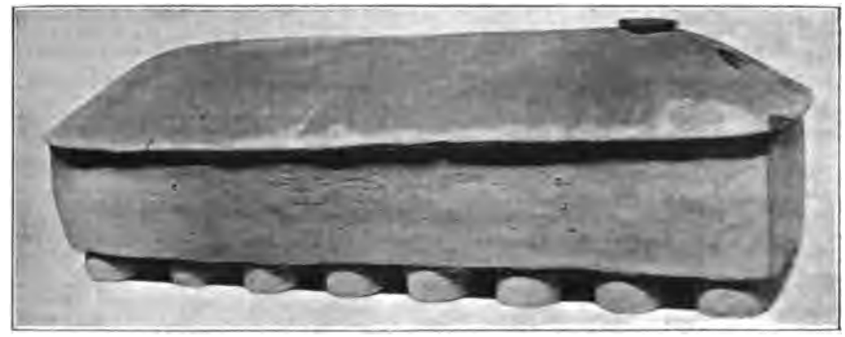

Fig. 15. Terra-cotta Sarcophagus from a Dolmen at Sakuraidani (Settsu).

Another is a dolmen (Table I. No. 68) of unique form which I discovered at Dōmyōji-yama (Kawachi), an external view of which is given in Plate XXXIX. fig. 2. The greater part of its mound has disappeared, and probably also part of its chamber, as the steep slope of granitic detritus on which it is situated has suffered much from weathering.

It consists of a megalithic chamber about 12 feet long by 5 feet 3 inches broad, with a cist, extending behind its back wall, still nearly covered by the remains of the mound. This cist is built of large blocks of stone so hewn and fitted together that they form a long well-shaped nearly rectangular cavity. Its dimensions are those of an ordinary sarcophagus, viz. length 6 feet 2 inches, breadth 2 feet 3 inches, depth 2 feet 9 inches. It is open only at the end next the chamber, and here there are remains of a shallow recess into which the stone closing it was fitted.

On the same hills are several cists (Table I., Nos. 66 and 67) without dolmens, but they are all of a common type, long, narrow chambers built of small stones, roofed with small rough slabs, and generally only covered with about a foot of

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earth. They have all been plundered, and I have never found anything in them excepting fragments of dolmen pottery.

Besides sarcophagi of stone, others of terra-cotta, as I have stated above, also occur in dolmens.

In fig. 15 is represented one which I was fortunate in obtaining shortly after it had been taken out of a dolmen at Sakuraidani (Settsu);[a] it is now in the British Museum. It is of unusually small size, its internal measurements being: length 4 feet 9 inches, breadth 1 foot 4 inches, depth 7½ inches. Its sides are about 1 inch in thickness. It stands on eighteen hollow cylindrical feet, and each of its long sides is pierced with six small holes. The cover is rudely roof-shaped and at each end there is a circular hole 3¾ inches diameter, into which the flat stopper shown in the figure was fixed (fig. 15).

When this sarcophagus was opened, it is said, that it contained nothing but earth and there was nothing else in the dolmen, but neither it nor the chamber was carefully examined, as the chief object in destroying the dolmen was to obtain stones for the foundation of the neighbouring temple. Internally it bears the markings known as *Chōsen-guruma* or "Korean wheel," which will be described later.

The finest terra-cotta sarcophagus which has yet been discovered is that shown in figs. 16 and 17. It was found near the village of Isokami in Bizen, and is now in the Imperial Museum, Tōkyō, and the only records there, are that it was taken out of a burial-mound, so that whether the mound contained a dolmen and this sarcophagus was in its chamber is not definitely known, but from its construction, having eighteen feet like that last described, it was evidently, I think, intended to be placed on a flat surface such as the floor of a dolmen, and not to be simply buried in a mound of earth. It is constructed in two pieces and measures internally: length 5 feet 1½ inch, breadth 1 foot 7 inches to 1 foot 9½ inches, depth 1 foot 2 inches; its sides being 1½ to 2 inches thick. The two medallions on one end of the coffin are of special interest. They are 5 inches in diameter, and are the earliest examples of the use of a crest or badge which have survived. The device resembles a flower with eight double petals, forming sixteen rays closely analogous to, but still differing from, the chrysanthemum badge of the Imperial family.

[a] On the sites of several ruined dolmens of the same group, I found remains of three similar sarcophagi and in the chamber of a dolmen about two miles distant fragments of another. I also discovered the feet and parts of the covers of two in rock-hewn tombs near Kokubu (Kawachi).

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Burial in stone sarcophagi, in both simple and double non-dolmen mounds, was occasionally practised, as I have already stated. The most notable example* I have found is a mound near Dōmyōji (Kawachi), on the summit of which a stone sarcophagus of the ordinary type is nearly completely exposed, and fragments of another are lying alongside it. Its dimensions are given in Table II. No. 17.

Figs. 16 and 17. Terra-cotta Sarcophagus and Cover from Isokami (Bizen).

This sarcophagus is said to have been always in this exposed position with its broken cover, yet on carefully clearing it out I found a small glass bead and a little vermilion, which showed it to be contemporaneous with the dolmen period.

The mound is 132 feet in diameter and 23 feet high.

This mode of burial continued to be practised for some time after the dolmen period, and certainly up to 705 A.D. as in a sarcophagus which was found in a large mound at Tennōji, near Ōzaka, a vessel of gilt bronze bearing that date was found.

* For others see Table II. Nos. 18 and 19.

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MAP OF
JAPAN
showing the
DISTRIBUTION OF DOLMENS
BURIAL MOUNDS AND ROCK-HEWN TOMBS.

Stanford's Geogl Estabt London.

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Part II.—Their Contents and Age.

In most European countries rude megalithic dolmens are associated with a rude stage in the civilisation of the races by whom they were built. The remains found in them are few, and where they occur they are mostly of stone or bronze, and rarely of iron. But in Japan all the dolmens, even the rudest, belong to the iron age. Stone and bronze weapons, with the exception of bronze arrow-heads, are entirely absent from their chambers, and the use of these materials only survives in objects for personal ornament, and for the purposes of decoration.

The Japanese, indeed, during their dolmen age had reached, as we shall see from the extensive remains they have left us of their work, a very high stage of civilization; they were expert metallurgists and workers in metals, skilful as potters, and had even then developed those artistic traits for which in later times they have become so distinguished.

When a warrior was laid in these rude stone chambers of the dead, his wants in a future world, where he was supposed to continue his existence, were supplied in unstinted measure. He was clothed in his robes, adorned with his personal ornaments, his implements of war and of the chase, and the bits and trappings of his horse were all placed near him. Around and at the entrance of the dolmen chamber were arranged offerings of food, water, wine, and flowers, in vessels of pottery, some of which are of elaborate forms. The remains found in dolmens which I have unearthed myself, and those which I have examined in the Imperial Museum, Tōkyō, and in the hands of collectors in the dolmen districts I have visited, are so numerous, that it will only be possible for me, within the limits of this paper, to deal with one or two of the chief finds, and such of the representative specimens in others as will be necessary for a clear comprehension of dolmen burials.

First in importance are the human remains.

During the dolmen period the bodies of the dead were not cremated,[a] and there

[a] Cremation in Japan only dates from the establishment of Buddhism in the country (sixth and seventh centuries, A.D.), and the first of the imperial line whose body was burned before burial is said to have been the Empress Jitō (d. 702), but this is rather doubtful. However, in 840 A.D., the body of the Emperor Junna was undoubtedly cremated, and it is worthy of note in connection with the rites as then followed, that the cremation did not take place near the tomb but about three miles distant, and that two mounds, both of which I visited, were erected to his memory, one to mark the site of the cremation and the other the spot where the ashes were buried.

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are the strongest grounds for believing that in the still more remote times of the earliest simple burial mounds inhumation alone was practised.

Unfortunately no well or even moderately preserved skeleton has yet been found in any dolmen. The damp atmosphere of the chamber and the free infiltration of water through the spaces between the stones in both walls and roof appear to have been most destructive to bone, removing nearly the whole of its organic matter and resolving it into bone earth. So much so, that when human bones are found they are always in such a state of decay that they can be rubbed to powder between the fingers, and occur in such small fragments that so far it has not been possible to obtain any useful measurements.

Even the bony parts of the teeth I have found to be entirely destroyed, the enamel of the crowns alone being preserved as thin hollow shells.

Generally the dead appear to have been laid on the floor of the chamber, but, as we have already seen, burial in sarcophagi of wood, stone, or terra-cotta placed in the dolmen was also practised.

When the sarcophagus was of stone it might be supposed from its closely fitting cover that the bones would not have perished. Most, however, have been rifled in bygone times, and in the few which have been opened during recent years no bones are said to have been found, so that in these also the bones had decayed and were in the form of earth or very small fragments.

As a rule only one burial,[a] or at most two took place in each dolmen. The exact position in which the body was placed has only been determined in a few cases, and in these the head lay towards the south and the feet to the north.

In a dolmen at Shiba (Kawachi), which I explored, the remains of a wooden sarcophagus were lying on the floor of the chamber in a north and south line. One or two fragments of skull were at the south end, and the greatest number of cylindrical jasper beads and two curved beads, usually worn together as a necklace, were also found in the same position. The contents of this dolmen had, however, been partially disturbed, yet, notwithstanding this, I think it is almost certain that the body was laid with its head to the south.[b]

[a] In an *allée couverte* in Shimotsuke explored by Professor Tsuboi, a most indefatigable archæologist, the remains of fourteen bodies were found, probably a chief with the members of his family or retainers, the skulls and other bones being in a fragmentary condition and all intermingled. This case may be regarded as an exceptional one, as the testimony of the metallic remains found in dolmens, where the bones have been destroyed, is all in favour of the view, that not more than one or two persons were buried in each.

[b] In two rock hewn tombs in Buzen, very early in the dolmen period, the skull lay towards the entrance (south) and the feet towards the back.

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In a dolmen explored by Professor Tsuboi, at Ashikaga (Shimotsuke), containing a single burial, the teeth and pieces of the skull were at the south-west side, and the bones of the feet at the north-east of the chamber, the body in this case being laid transversely near the back wall. On the other hand, in a stone sarcophagus which I opened in a mound of post-dolmen times in Kawachi, the skull was at the north end.

The position of sarcophagi in dolmens does not aid us in determining whether the body was buried with its head to the south or north, and, as I have already stated, there are no satisfactory records of bones having been found in them. Out of twenty-three which I examined sixteen lay in a north and south direction, so that we may conclude that generally the dead were placed in a north and south line.

The remains found in the early simple mounds are weapons of bronze, sometimes associated with personal ornaments of stone.

No very precise records have been kept of the conditions under which they were found, or whether any pottery was associated with them, as they have generally been unearthed during agricultural operations. The swords occur only in those portions of the islands in which the Japanese first settled, thus they are most numerous in northern Kyūshū, a few have been found in some of the provinces on the shores of the Inland Sea, but none further east. They have never been found in dolmens. (See map, Plate XL.)

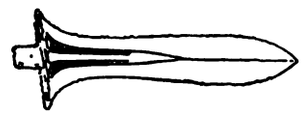

Fig. 18. Bronze Sword.

In fig. 18 is represented one of these bronze weapons. In this form of sword, or probably halberd,[a] the blade, which is 1 foot 2 inches long, is two-edged, is strengthened by a central ridge and two converging ribs, and cast with a short tang for the attachment of a hilt or handle.

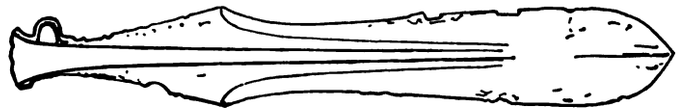

Fig. 19. Bronze two-handed Sword.

A more common form is illustrated in fig. 19.[b] In this both blade and hilt are cast in one piece. Its total length is 2 feet 9 inches and its breadth $4\frac{1}{2}$ inches.

[a] *See* Evans's *Ancient Bronze Implements*, 262 *et seq.*

[b] From a paper by Mr. T. Kanda (formerly Governor of the Hyōgo Prefecture) on "Ancient Bronze Swords," *Bulletin of the Tōkyō Anthropological Society*, April, 1886, p. 39.

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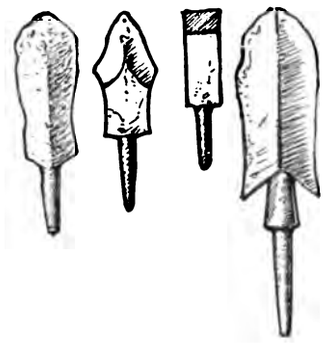
The casting, however, is in the rough state, and possibly, when finished, the blade might be slightly diminished in breadth. Yet it would still be a rather unwieldly weapon, although from its length of its hilt, 10½ inches, it was intended to be used as a two-handed sword.

About forty-five of these bronze weapons, with two or three of less common forms, and four stone moulds which were used in casting them, have been unearthed.

The bronze arrowheads are of the shapes illustrated in fig. 20, and their use survived during part of the Iron Age. Specimen *a*[a] was obtained from an early mound in Yamato, *b*[b] from one of later date in Kawachi, and *c* from a double mound in the same province. The locality of the still later form *d*[c] is unknown.



a *b* *c* *d*

Fig. 20. Bronze Arrow-heads. ½ linear.

No bronze celts have yet been found in Japan.

Before proceeding to consider seriatim the various objects, which, according to the beliefs of the early Japanese, were held to be necessary for the wants of the dead in the spirit world and were buried with them, I will first give an account of the contents of a dolmen which I explored in the village of Shiba (Kawachi).

The dolmen has already been described. On entering the chamber through a gap below one of the roof-stones, the sides and roof were seen to be thinly coated with a red powder, as if they had been dusted with it, and the stones of the floor were afterwards found to be similarly covered.[d] The floor was entirely covered with fine earth, which had penetrated through the crevices in the roof and walls and had accumulated to the depth of from 6 to 10 inches. There were several footprints on the surface, as some government officials had visited the dolmen shortly before me. They took away one or two fragments of pottery which were exposed. The farmer, too, on whose ground it was situated, had also been in it and removed some things, but these I afterwards obtained from him. The chief contents, however, being protected by the layer of earth, escaped discovery.

[a] British Museum. [b] British Museum.

[c] From a paper "On Ancient Bronze Arrowheads," by Kanda. *Op. cit.* ii. 124.

[d] An analysis of the powder showed that it consisted of ferric oxide and contained no vermilion, although that substance was found in small quantities adhering to some of the beads and inside one of the covered pots.

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In the exploration of this dolmen I made the following arrangements for the determination of the position of any objects which might be found. The floor was divided into twenty divisions by means of a frame consisting of three longitudinal and four transverse laths of bamboo firmly bound together and laid on the surface of the earth. Each division was numbered and had two baskets, a large and a small one, assigned to it for the reception of the objects it might contain.

Beginning with division No. 1, the earth was carefully scraped away in layers and sifted, first through a coarse and then through a fine sieve, in order that nothing, however small, should escape detection; this was continued until the slabs covering the floor had been reached. The other divisions were treated in the same manner. I had hoped by these precautions to be able to determine the original position of every object, but I soon found, from the irregular distribution of some of the beads and fragments of a human skull, that in several places the remains had been displaced. The displacement seemed to be of ancient date, was fortunately only partial, and had not been accompanied by plunder.

A large quantity of decayed wood, in powder and fragments, spread over an area of about 7 feet 6 inches by 4 feet, showed that the body had been buried in a sarcophagus of pine boards placed longitudinally on the floor of the chamber about 1 foot from the east and 3 feet from the north wall. The boards had had a thickness of about $2\frac{1}{2}$ inches, and had been fastened together with nails having lozenge-shaped heads and other iron fittings.

The collapse of the sarcophagus, when its sides had decayed, may have been the cause of the irregular distribution of some of the objects, such as the horse furniture, arrow-heads, &c. which may have been placed on the top of the cover.

Personal ornaments of metal, many beads of glass and jasper, and arrow-heads were found within the space covered by the decayed wood. These, with the possible exception of the arrow-heads, had been put into the sarcophagus with the body. They were nearly all in the southern half, and the arrow-heads in the northern half of the *débris*, indicating that the body had lain with its head to the south.

A curious feature of the remains which I found in this dolmen is the extraordinary number of beads, 1,108 in all. Of these 791 are of glass, all dark blue, with the exception of a few only, which are green or amber coloured, 17 of silver, 123 of baked clay, 133 of steatite, and 41 of jasper.

There were besides three "curved beads," *magatama*, consisting respectively of chalcedony, rock crystal, and steatite. The glass beads are rudely globular, with ground flat ends, and are perforated with drilled holes. They vary from $\frac{3}{16}$ inch

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to $\frac{5}{16}$ inch in diameter. Those of baked clay are of similar form and size. The silver beads are mere hollow spheres of extreme thinness of the same size. The steatite beads are smaller than the other, and are in the form of short cylinders about $\frac{1}{8}$ inch long and $\frac{3}{16}$ inch in diameter, very rudely fashioned. The jasper beads, which are of the kind commonly called "bugles" (Jap. *kuda-tama* or "tube beads"), are large, well cut and polished cylinders of this hard stone, of a fine green colour, and varying from $\frac{3}{4}$ inch to 1 inch in length, and from $\frac{1}{4}$ inch to $\frac{5}{16}$ inch in diameter. They are pierced from end to end by a carefully drilled hole, sometimes of extreme fineness, and never bear any engraved designs. A variety of these, always made of rock-crystal, resembling in form two truncated hexagonal pyramids placed base to base, with carefully cut and polished faces, is occasionally found, but rarely more than one in each dolmen. Both these steatite and jasper beads are very ancient forms of stone ornaments, and are not seldom found in the early burial-mounds along with arrow-heads of bronze unaccompanied by any objects of iron.

Among the most important of the stone ornaments, never made of metal, and very rarely of glass, are the curved beads called *magatama* (fig. 21).[a] They are of the shape of a comma with a thickened tail, and have a hole pierced through the head, so that they might be strung with cylindrical or other beads to form a necklace. That they were so worn is proved by the representations of such necklaces on the terra-cotta figures previously alluded to. They are ordinarily about $\frac{1}{2}$ inch to $1\frac{1}{2}$ inch in length. A few of much larger size, reaching to 4 inches, have been found, but these must have had some other use. In one find of 52, which I obtained from a mound in Yamato, no other beads were present, so that they must sometimes have been worn alone. They are very widely distributed, having been found in nearly every group of dolmens or mounds in Japan. They also occur in Korea. The stones of which magatama are made are rock crystal, steatite, jasper, agate, and chalcedony, and more rarely chrysoprase and nephrite. The last two minerals are not found in Japan.

Fig. 21. Magatama. ½ linear.

The distribution of these various kinds of beads in the dolmen was peculiar. Only one-sixth of the whole were found in the *débris* of the sarcophagus, and

[a] The origin of this ornament has been and is a subject of hot controversy among Japanese archæologists and the most abstruse theories regarding it have been propounded, but it would seem not altogether improbable that it arose in remote times simply as an imitation of the claws of wild animals, which were then strung together as necklaces, and was gradually substituted for them.

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these were chiefly in three lots, two of blue glass (100 and 52) and one of jasper (17). Outside the sarcophagus, near the middle of the back wall of the dolmen, was a lot of 507 of blue glass, and between this point and the east wall the silver beads were somewhat irregularly scattered. Along the base of the west wall, about one foot distant from it, were three other lots; one consisting of the whole of the burnt clay beads, another of the whole of the steatite beads mingled with 25 of green glass and 9 jasper bugles, and the third of 41 ordinary blue glass beads. It is difficult to account for this distribution; it may be that the wife of the warrior was laid on the west side of the chamber, but in that case the beads would most probably have been placed on the body as they were worn and their positions are incompatible with this view. On the other hand, the occurrence of two spindle whorls in this part of the dolmen would be in its favour, as they can hardly have formed part of the equipment of a warrior.

No bones excepting two small portions of skull about 1 inch square in a pulverulent condition and the hollow crowns of 19 teeth were found. One piece of skull was near the south end of the sarcophagus, the other, together with 9 teeth, was in the south-west corner of the dolmen. The remaining teeth were in the south-east corner and near the middle of the west side. There were no traces whatever of charred bones, and the fragments of skull and teeth had not been acted on by fire. The burial was in fact long prior to the introduction of cremation.

The warlike weapons which I found in this dolmen were forty arrowheads, a long sword, a fragment of another, and a dagger, all of iron. Most of the arrowheads were found amongst the wood of the sarcophagus, the arrows having been placed originally either on the cover or alongside the body. They are of a rather formidable character (fig. 27).

The other weapons had been laid on the floor of the chamber where they were found. The long sword lay along the side of the west wall near the entrance, the dagger at the opposite extremity of the same wall, and the fragment of a blade against the back wall.

The long sword is 3 feet 5 inches in length (blade 2 feet 10 inches, tang 7 inches), has a straight back and one cutting edge, and is of the form (fig. 24*a*) which, as we shall see later, is characteristic of the dolmen period in Japan. The tang is pierced with three rivet holes for the attachment of the grip.

The total length of the dagger is 10 inches, but it has lost a small portion of both its point and tang.

In several dolmens, in other provinces, swords and spears have been found in

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the same positions as these and not on or near the body, but in some containing stone sarcophagi, as at Enya and Imaichi, all the weapons, with the exception of the spears, were found within the sarcophagi.

A horse bit, and several halberd-shaped metal appendages of horse trappings similar to fig. 30*a*, as well as rings, buckles, and other horse furniture, were found in the space north of the sarcophagus and partly in its *débris*. Originally they had doubtless lain on the cover, and had been projected thither when the sarcophagus broke down. In other instances, as at Imaichi (Izumo), the horse furniture was found on the covers of stone sarcophagi, and in the Tamba group of dolmens, on the rude stone shelf below which the body was laid.

The bit, which is in a very fragmentary condition, is furnished with cheek-pieces of iron somewhat heartshaped, similar to fig. 30*d*, and with their outer surfaces ornamented with small bosses.

The halberd-shaped ornaments, of which portions of three were found, are also of iron, but are plated externally with thin sheets of copper coated with gold.

The personal ornaments, other than beads, consisted of four silver finger or ear rings, two silver armlets $2\frac{3}{4}$ inches in diameter, and two curious slender ornamental rods of gilt copper expanded at one end into flat spatulate heads. Besides these there were numerous fragments of thin gilt copper fillets, unfortunately all so much broken that their original shapes could not be made out. They were mostly decorated with a simple wave-pattern in lines of punched dots. Adhering to their inner surfaces were portions of a woven hempen fabric, which had been converted into oxide of iron and was thus preserved. They doubtless formed ornamental attachments to ceremonial or official robes.

These personal ornaments were chiefly found in the *débris* of the sarcophagus.

Fig. 22. Metal ornament of Horse Trappings. ½ linear.

Ten curious objects (fig. 22), each about $1\frac{3}{4}$ inch long, of thin copper gilt and full of decayed wood, were found along with the horse furniture, and may perhaps have been used for the decoration of some part of the trappings of the horse.

The spindle whorls which I have already mentioned are both of steatite; one is plain, but the other (fig. 23) is decorated on its upper surface in incised lines with the simple archaic pattern of a very early age, a series of triangles filled with crossed lines, and on its base with the device shown in the figure.

According to the beliefs of dolmen times the needs of the dead in the other world were of as materialistic a character as in that they had left. Vessels

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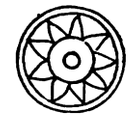
containing food, water, and wine were hence placed with them in the tomb, and from time to time in after years, were also offered with religious ceremonies on the outside of the burial-mound. I was unable to examine the exterior of the mound of this dolmen on the south side, on which the vessels of the later offerings were usually placed, as it was covered with forest and dense brushwood.

Upper surface.



Base.

Fig. 23. Spindle Whorl. Diam. 1⅛ inch.

The dolmen chamber yielded sixteen vessels of pottery, several imperfect, but I was able to repair most of them with more or less completeness.

The most important vessel by reason of its size and form is a large tazza (fig. 38*f*). It is 1 foot 8¾ inches high, and is the largest which has yet been found; the only other which approaches it in height being one in the Imperial Museum, Tōkyō (1 foot 7¾ inches high), which was taken from a dolmen in the province of Mino.

The pedestal is pierced with four horizontal rows of triangular, and one row of long rectangular, apertures, and is ornamented besides with a rudely incised pattern of acutely waved lines between the perforations. The bowl is 15½ inches in diameter, and bears internally the markings known as *Chōsen guruma*, "Korean wheels," which will be described later, and externally two belts of waved lines, one of which has been made with a comb of twelve teeth. This tazza had been placed on the west side of the sarcophagus near its northern end. Close by it, but nearer the back wall, was another of smaller size. Near these large tazzas were three others only 4 inches high; two of which are similar to but smaller than that shown in fig. 38*a*, and have their pedestals pierced with three perpendicular slits, the pedestal of the other being unpierced.

Fragments of eight shallow-covered bowls (fig. 38*b*) varying in size from 4⅝ inches to 6¼ inches in diameter and 3½ inches high were also found, one near each corner at the back of the chamber and the others on the west side of the sarcophagus in the space between it and the wall. This is the most common form of sepulchral vessel and is found in every dolmen group. Bones of fish and of birds are said to be sometimes found in them, but all the above were empty excepting one, which contained a little vermilion.

The large wide-mouthed water vessels which occur in most dolmens are only represented here by two potsherds of insignificant size.

Among the *débris* of the sarcophagus, at its north end, was an unsymmetrical flattened globular vessel resembling fig. 38*l*, with a short neck placed excentri-

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cally in its upper side. It is of uncommon occurrence, and was evidently intended to hold water or wine.

The next vessel (fig. 38*k*) was probably used for libations of wine. It is $5\frac{1}{2}$ inches high, and is in the form of a vase, with a hemispherical base and a wide trumpet-shaped mouth. In one side of its body is pierced a circular aperture sloping downwards. In a few rare examples this aperture is prolonged in the form of a spout; but in all other cases it appears to have had a tube of bamboo inserted in it, through which the wine could be poured.

All this pottery consists of a rather hard-burnt grey earthenware, and has been shaped on the potter's wheel.[a]

The dolmens of other groups have also yielded valuable collections of remains of an extensive and varied character. The most typical objects of these, especially those which illustrate most forcibly the stage to which civilisation had attained during the dolmen period, or which throw some light on the date of its beginning and of its close, will now be considered. Unfortunately, none of the dolmens or mounds which were opened before about 1878 A.D. were explored by competent persons, so that, even in the case of some of the most important finds, neither the positions of the objects, nor even whether they were taken from a simple burial-mound or from a dolmen chamber, have been recorded.

The metal objects, from their special importance, first demand our attention.

Swords.—Amongst the most important objects in the remains which the dolmens have yielded iron swords occupy a foremost position.

It might be expected that the transition from the bronze to the iron weapon would be gradual and that both would for some time at least be in contemporaneous use, yet there is not a single instance in which both have been found together. It should also be noted that the shape of the iron sword is entirely distinct from that of bronze, and that no intermediate forms are known.

This one-edged sword has one special characteristic, *i.e.* it has a perfectly straight back, and is thus distinguished from the swords of later times, all of which have a slight curvature. It is, in fact, essentially the sword of the dolmen period first appearing at or near its beginning, then dying out and being replaced by the curved blade at its close.

These swords are of two kinds, long and short. The former are most numerous, and the length of their blades from guard to point varies generally from 2 feet

[a] The whole of the remains which I obtained from this dolmen are in the British Museum.

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6 inches to 3 feet. The latter vary from 1 foot 8 inches to 2 feet. Occasionally short daggers occur, the shapes of which are derived from the iron and not from the bronze sword.

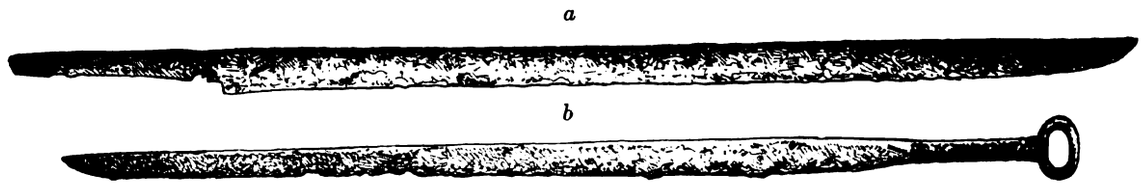

Fig. 24. Iron Swords of the Dolmen Period.

Two typical examples of the long sword are represented in fig. 24.

The sword fig. 24*a* is one of fourteen (eleven long and three short) which were taken from a dolmen in the province of Higo.[a]

The blade is 3 feet $\frac{1}{2}$ inch and the tang $8\frac{1}{2}$ inches long, the total length being 3 feet 9 inches.

A sword,[b] of similar length and shape, I obtained from a dolmen in the Rokuya group (Tamba).

Fig. 24*b* is one of two other swords from the Higo dolmen, both of which are peculiar in having a ring[c] forged at the end of the tang, which had originally been thickly plated with silver. Its length from pommel to point is 2 feet 8 inches.

No guards or scabbards were found with the above swords. The latter may have been of leather or wood, and so have perished. But guards of iron, copper, and bronze have been found with similar swords in several dolmens, yet in almost every case they were fewer in number than the blades. In most dolmens only blades occur; I am hence inclined to believe that it was often the custom to bury unmounted blades, just as in later times they were always so kept when not in use.

[a] The curator of the Imperial Museum, Tōkyō, where these swords are kept, had been unable to ascertain with certainty whether the mound contained a dolmen or not, but from the perfect condition of several objects of delicate workmanship which were found with them, I think they were undoubtedly taken from a dolmen chamber.

[b] In the British Museum.

[c] A sword with precisely the same kind of pommel was found in a dolmen near Ueda, in the far distant province Shinano. Similar ring pommels are seen on ancient Danish swords. Worsaae, *Danish Arts*, p. 151, fig. 187.

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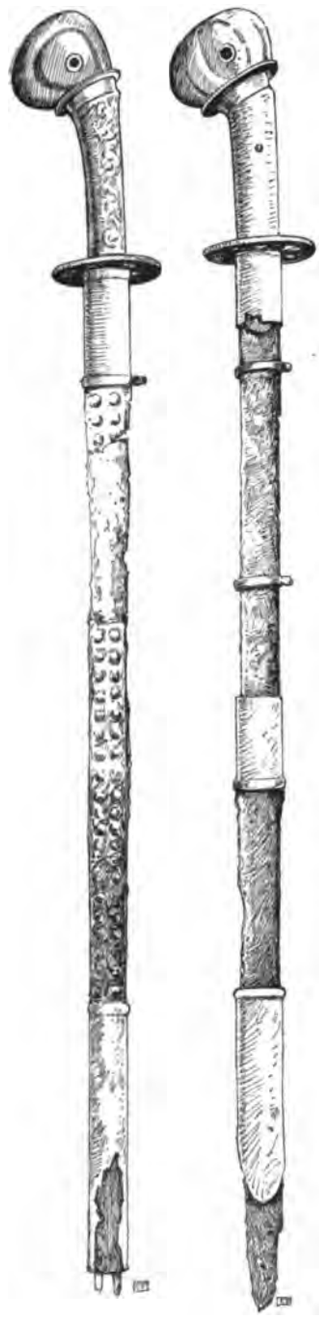

Fig. 25. Swords with ornamental mounts.

Fragments of the metal work of the hilts and scabbards occur among the objects obtained from most groups, but most are so broken up and imperfect that until the discovery in 1880 of two splendid specimens of swords with their furniture almost complete, it was impossible to determine what they had been used for.

These swords are shown in fig. 25. They were taken from a dolmen near the village of Ōmi (Musashi), together with two other swords, remains of an iron helmet and cuirass, a small dirk with silver mounts, many arrowheads, and three gold-plated rings (fig. 33).

The two swords are remarkable for the richness of their ornament. The upper one is 2 feet $6\frac{3}{4}$ inches long from the guard to the point, and the hilt $7\frac{3}{4}$ inches. The grip is of wood, enclosed in copper plates coated with gold and decorated with fine punched scrollwork. The pommel is of a curious form, and consists of the same metal expanded into a large bulb-like head. At the junction of the pommel with the grip there is a thin washer which projects beyond the grip, and adjoining it a narrow collar. The guard is also of copper, coated with gold, and is pierced with ten four-sided trapezoidal apertures. Three broad bands and two rings of silver encircle the wooden scabbard, the latter having loops for the attachment of the cords or chains by which the sword was suspended. The other sword is very similar to this, but the body of its scabbard is covered with plates of gilt-copper, which are beautifully ornamented with bosses in *repoussé* work in high relief.

The guard which has been most frequently found with these straight iron swords is shown in fig. 26. This is the typical form of the sword-guard of the dolmen period in Japan, and is not found in later times. It is sometimes of copper or bronze coated with gold, more often of iron, and is generally perforated with these trapezoidal apertures. In a few

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rare cases the perforations are circular. Still more rarely the guards are of plain unpierced iron.

These one-edged straight swords, with their peculiar guards and hilts, differ *in toto* from those of post-dolmen times, and are of great importance in aiding us in the determination of the approximate date beyond which the dolmen period did not extend.

Fig. 26. Sword Guard of gilt copper. Size 3⅜ inches by 2⅝ inches.

Three socketted spear-heads, two of which resemble those of mediæval and later times, were found along with the Higo swords.[a]

Iron Arrowheads.—These are of extensive occurrence. They have been found in dolmens of every group which have not been rifled of their contents in bygone times.

Sometimes, as in those of early date from Hyūga, their forms are derived from the more ancient arrowheads of bronze. But generally they are entirely different, and are of decided "iron" forms.

One of the forms of most frequent occurrence is shown in fig. 27.[b] It consists of a double barbed head forged at the end of a round or square stem. Their length is generally about 6½ inches from the point to the end of the tang, the stem and head projecting about 4⅛ inches beyond the extremity of the shaft. Single barbed one-sided heads, resembling the above double barbed form cut in half lengthwise, are also not uncommon.

Fig. 27. Iron Arrowhead.

Armour.—No bronze armour has yet been found in Japan.

Iron armour, too, is by no means of very common occurrence, either in simple mounds or dolmens. It is just possible that it may not have been universally worn, although fragments have been found in all the chief centres occupied by the dolmen builders.

On the other hand, it is certain that its reported absence from some dolmens

[a] Spear-heads are of uncommon occurrence in dolmen remains, probably because spears were the weapons of the ordinary fighting men, and not of the chiefs who alone were entitled to sepulture in dolmens.

[b] British Museum. From the Shiba dolmen.

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is due to its having been so much destroyed by rust that, owing to its thinness, it escaped recognition.

I may say here, that in many dolmens the iron objects are completely converted into shapeless agglomerations of rust, in which the forms of even massive objects can only be made out with great difficulty, and in all these armour would have been unrecognizable.

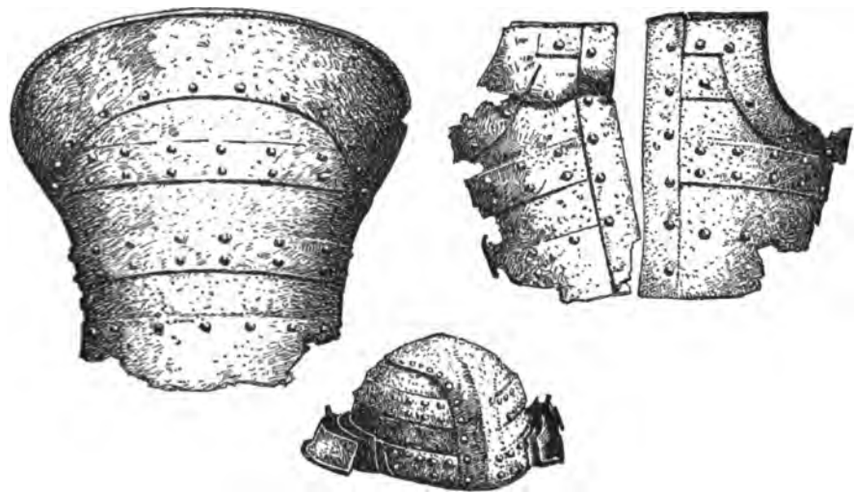

Fig. 28. Iron Cuirass and Helmet. $\frac{1}{8}$ linear.

In fig. 28 are represented some pieces of armour* and a helmet of special interest which were found, together with the swords mentioned above, in the Higo dolmen. The cuirass is formed chiefly of horizontal plates of iron very skilfully forged and riveted together with iron rivets. Another cuirass from this dolmen is in a fragmentary condition, the back only being preserved; it is of the same form as the other, but the plates had been fastened together with thongs or cords instead of rivets. Both cuirass and helmet are entirely different in form and construction from those of historical times, but they agree very closely with the armour represented on the terra-cotta figures which, during the early centuries of our era, were set up around the summits of the tumuli of chiefs and rulers, in place of living retainers who before that time had been buried alive in the same position. An illustration of one of these figures is given in fig. 41. The model-

* Along with this armour there were found, amongst other objects, fifty-two beads of blue glass, eleven cylindrical beads of green jasper, and a covered dish all identical with those I obtained from the dolmen at Shiba (Kawachi).

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ling, it is true, is somewhat rude, yet it is sufficiently distinct to show that the armour is practically of the same form as the above.

No shields or any pieces of metal or other materials which could have formed parts of them have been found in any dolmen.

Horse Furniture.—Of all the metal objects found in dolmens, not even excepting the sword, the bits and other furniture of the warrior's horse are generally the most richly ornamented. Two remarkable examples of horse-bits,[a] with elaborate cheek-pieces, are illustrated in fig. 29. These I obtained from the rude megalithic dolmen, at Rokuya (Tamba). They were found lying on the rude stone shelf which projects from the back wall, and below which the body of the warrior was laid.

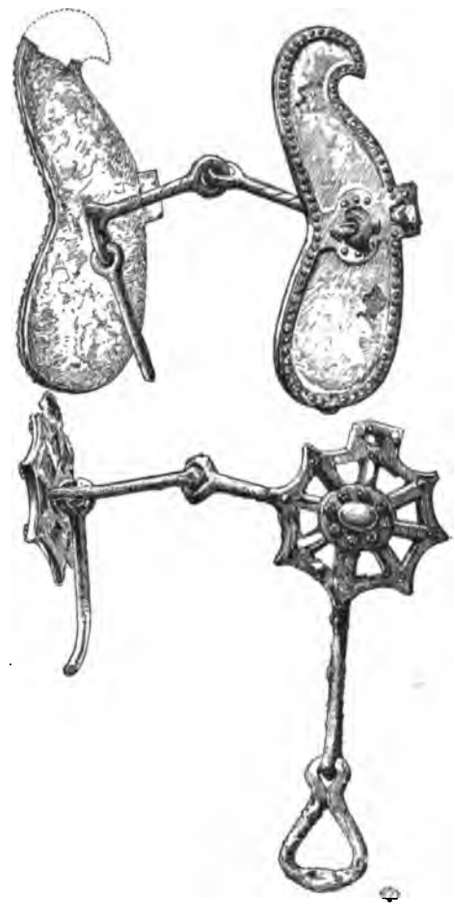

Fig. 29. Horse-bits. Rokuya Dolmen. ½ linear.

The cheek-pieces of the upper bit are flat plates, with a beautiful curved outline. Each consists of a plate of hammered iron, to the exterior of which, in order to protect it from oxidation and for purposes of display, a thin sheet of copper, coated with gold, is attached by means of studs running round its margin.

The lower bit is of similar construction, but of a more elaborate design. Each cheek-piece is in the form of an eight-pointed star in pierced open work and decorated with ornamental studs.

There are several other forms of these cheek-plates, all being more or less decorated, and some having small circular bells of bronze attached to their rims. One of the plainer kinds, made of iron only, which I found in the Shiba dolmen, has been described.

In fig. 30 are represented several other ornamental objects for the decoration

[a] British Museum.

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of the horse. The most important, *a*, *b*, *c*, *d*, and *e*, consist of flat iron plates, which, with the exception of *d*, are all covered with thin sheets of gilt or silvered

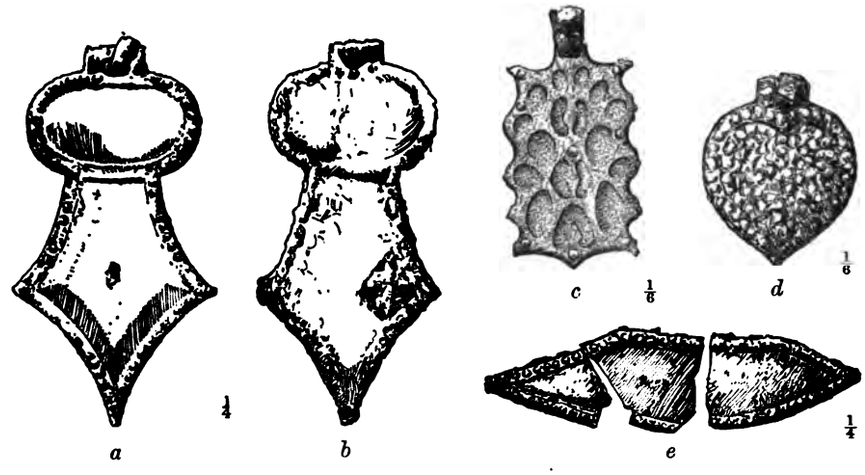

Fig. 30. Ornamental appendages of the Trappings of Horses.

copper in precisely the same manner as the cheek-pieces of the bits just described. These were attached as ornamental appendages to various parts of the harness and trappings. The forms which are of most frequent occurrence, *a*, *b*, and *c*, seem to have been in extensive use during the dolmen period, as they have been found in several groups of dolmens in widely separated districts.

In the figure, *a* represents one of six which were found with the horse-bits (fig. 29) on the shelf of the Rokuya dolmen, *b* one of four from a dolmen at Ryōseki, near Kochi (Tosa), *c* one of two from Shiroishi (Kōtsuke), *d* one from the Shiba dolmen, and *e* one of two from the Rokuya dolmen.

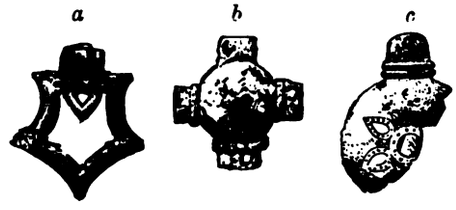

Fig. 31. Other ornaments of Horse Trappings. ½ linear.

The smaller objects, fig. 31, *a*, *b*, and *c*, which I obtained in considerable numbers from the Rokuya dolmen, also occur in most groups, and are identical in structure with the larger ornaments. They appear, from the texture shown by the iron oxide adherent to their lower surfaces, to have been attached, the first to leather straps, and the others to some kind of woven material, probably hemp.

Stirrup-irons are of extremely rare occurrence; only two pairs are known to

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me, and they are of the form shown in fig. 32, which represents one from the Higo dolmen.

The manner in which all these objects were used in the equipment of a horse is well illustrated in the terra-cotta figures of horses* which, like the images of retainers, were set up on the burial-mounds of chiefs.

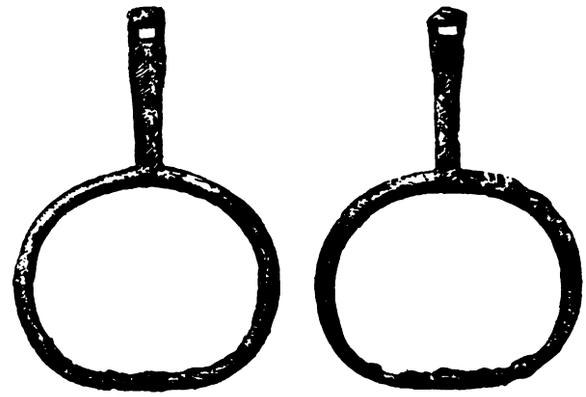

Fig. 32. Stirrup-irons. Extreme breadth 7¼ inches.

ARTICLES OF DRESS.—No articles of clothing of the dolmen period have been preserved. That they consisted of some woven material, probably hemp, is proved by the fragments which I found adhering to many pieces of metal-work from both the Shiba and the Rokuya dolmens. These had survived owing to their petrifaction into ferric oxide.

The shapes of the garments worn can only be imperfectly made out from the terra-cotta figures mentioned (figs. 40, 41). I may, however, state here that, whatever their shapes may have been, they must have been fastened by means of bands, as pins or fibulæ are entirely absent from dolmen remains.

PERSONAL ORNAMENTS.—These occur in the contents of all dolmens, and consist chiefly of beads of stone and glass, and rings and strips of metal. The various kinds of beads have been already described.

The chief personal ornaments of metal met with are penannular rings of copper or bronze sheathed with gold or silver, beads and rings of silver, and thin copper strips and bands thickly gilt and ornamented with archaic designs. They are generally simple in character and few in number, even in those dolmens which have yielded highly ornamented swords and a profusion of richly-gilt horse ornaments.

Fig. 33. Penannular Ring. Copper plated with Gold. ½

The copper and bronze rings sheathed with gold or silver, called respectively *kin kwan*, "gold rings," *gin*

* An illustration of one of these horses is given in fig. 42.

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kwan, "silver rings," are more numerous and wider in distribution than most of the other objects. An illustration of one is given in fig. 33. Those coated with gold are the most common, and as many as thirteen have been found in a single dolmen. Usually, however, there are not more than two or three, and then they are accompanied by others of simple copper or bronze. In internal diameter they vary considerably, the smallest being only about $\frac{1}{2}$ inch and the largest about $\frac{3}{4}$ inch.

They are all massive and heavy and have been made by covering a round bar of the inferior metals with a sheet or tube of gold, then bending it into the form of a circular ring leaving a narrow space between the ends. They resemble closely certain ancient Irish rings, and like them the junction of the gold sheet along its length cannot be seen, whilst at the ends it is simply rudely bent over and hammered.[a]

The smallest of these rings, which are sometimes but very rarely of solid gold, were probably used as earrings and the larger as finger rings, although some Japanese antiquaries hold that they were attached to the dress. The larger rings are never of solid gold and seldom of silver, and, in fact, objects consisting solely of these metals are extremely rare. This was possibly owing to their scarcity and consequent high value[b] which only permitted them to be used for covering the surfaces of more abundant materials.

The silver beads and rings obtained from the Shiba dolmen are typical specimens of their class so that further description is unnecessary.

Thin plates or strips of copper seem to have played an important part in the decoration of the robes of the dead. They are of frequent occurrence in dolmens, and are always found along with the bones, when there are any, or in that part of the chamber where the body had lain. From the Tamba dolmen I obtained numerous fragments and have also found them in dolmens in other provinces, but in all cases, owing to the thinness of the metal, its excessive oxidation and consequent brittleness, they were all in pieces of minute size. Neither their original shapes nor the mode in which they were attached to the garments could be determined. A careful examination of some of the larger fragments showed

[a] In Korea, at the present day, similar thick and heavy rings of solid silver, with their ends merely buttjointed and not soldered, are extensively worn as finger rings.

[b] Copper also appears to have been a valuable metal, although less so than the foregoing, as it is so often used, as we have already seen, merely for covering iron objects many of which would have been better fitted for their uses and more easily constructed if they had been made entirely of it.

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that their upper surfaces were ornamented with archaic designs, generally of a simple geometric character, executed in straight and curved lines of closely punched dots. The method of executing their designs in these lines of dots has, as we shall see later, an important bearing on the age of the objects.

In fig. 34 is shown one of these bands from the Higo dolmen, which is in a more perfect state of preservation than any yet found elsewhere. It is a broad band of copper gilt foil ornamented with a hexagonal net-like pattern executed in the manner just described. The decorative effect is increased by small circular pendants of gilt copper foil suspended by wires from angles of the hexagons. The numerous small perforations which it bears show that it had been attached to the dress by sewing with thread.

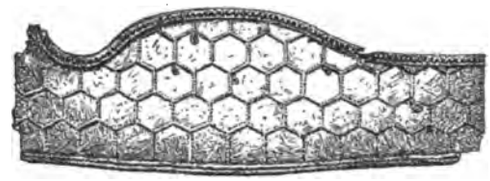

Fig. 34. Portion of a band of gilt copper worn attached to the dress.
½ linear.

Other bands from the same dolmen are ornamented with different designs otherwise they are of the same character.

Some unique specimens of personal ornaments were found along with these bands, the most important being an elaborately decorated tiara of gilt copper, unfortunately much oxidized and partly in a fragmentary condition. In addition to the punched dot decoration, it is ornamented with scroll designs in pierced work. The others are two pendants and two earrings of gold, the former having small beads of enamel-like glass mounted as gems at their lower ends.

Fig. 35 represents the shoes of the Higo warrior. These are of copper, thickly gilt, and like the band (fig. 34) are ornamented with the hexagonal pattern with pendants suspended from the angles. They are 12⅜ inches long, and have spikes projecting from the bottom for the attachment of soles.

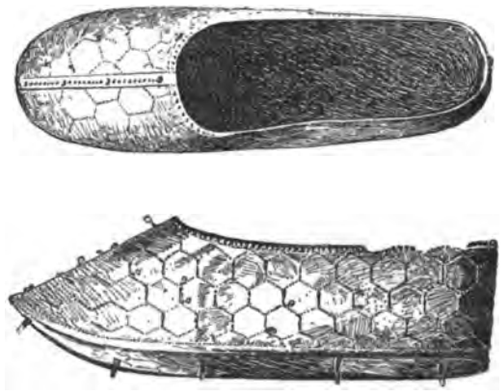

Fig. 35. Shoes of gilt copper.
Length 12⅜ inches.

Six Chinese mirrors were also found in this Higo dolmen.[a] On one there is an

[a] Similar mirrors, some undoubtedly of Japanese workmanship, have also been found in other dolmens.

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inscription but it gives no clue to its date. The curator of the Imperial Museum, Tōkyō, however, is of the opinion, from their designs, that they cannot be earlier than the later Han dynasty (25 B.C. to 220 A.D.), nor later than the Tsin (265 to 419 A.D.). This would make the date of this dolmen not later than the fifth century of our era.

The splendid examples of metal work, some of the most typical of which I have just described, which have been found in the rude stone dolmens of Japan should guard us against regarding similar dolmens in other countries as always the work of uncivilized races.

The Pottery of the Dolmen Period.

The total absence of vessels of copper or bronze in the remains found in dolmens is noteworthy. It may perhaps indicate that such vessels were not then in use, or, if so, that they were too costly to be buried with the dead. The latter supposition is, I think, not correct, as some of the clay vessels would have been made in imitation of their forms. But no sepulchral pottery of what may be termed "metallic" shapes has ever been found.[a]

Fig. 36. Terra-cotta Vase (hand-made). Height, 7½ inches.

All dolmen groups have yielded considerable quantities of pottery, and so many of the vessels of every kind have been found entire, that the custom, of which there is said to be evidence in other countries, of breaking the vessels which had been used in the burial rites, does not seem to have been practised in Japan. The vessels are most numerous in the chamber of the dolmen where the funeral offerings were made, but they are also found in the gallery, and in that case are those which were probably used in ceremonies subsequent to the day of burial. They also occur on the summit of the square end of the double mounds, in which place part of the funeral rites seems to have been performed.

[a] The exclusive employment of earthen vessels according to Schrader (*Prehistoric Antiquities of the Aryan Nations*, 367), was long retained in Greece and Italy in matters of ritual and the non-use of metal vessels for sepulchral offerings may be similarly explained. I may add that even at the present day on important occasions the health of the Mikado is drunk in saucers of unglazed earthenware.

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Another position in which they are found is the south side of the base of most mounds, where the anniversary ceremonies in honour of departed ancestors were held.

This pottery may be divided into three classes according to the nature of the material of which it is made: I. Lightly burnt Terra-cotta; II. Hard burnt Earthenware; III. Coarse Terra-cotta.

The most ancient vessels which have yet been found are of Class I. They are small wide-mouthed vases of pale reddish brown colour, rudely made by hand (not on the potter's wheel) and are without decoration of any kind.

The specimen shown in fig. 36 was dug up near a simple non-dolmen mound attributed to the Emperor Jimmu[a] at the foot of Mount Unebi (Yamato). It was given to me by the local governor, who was present when it was unearthed. It is $7\frac{1}{2}$ inches high and 5 inches in diameter.

Height, 6 inches. Height, 5⅛ inches. Height, 5 inches.

Fig. 37. Terra-cotta Vessels (wheel-made).

The three other vessels in fig. 37 are of the same material, and although of archaic forms, are all wheel-made and of less ancient date than the above. These I found in a rock-tomb adjoining a group of dolmens near the village of Yasui (Izumo). They were associated with ordinary dolmen pottery.

The pottery of Class II., although of the most varied shapes, is very uniform in its general character. It is usually more or less hard burnt, of a grey colour, never glazed or painted, and almost invariably made partially or entirely on the potter's wheel.

To this class all the typical sepulchral vessels of the dolmen period belong.

[a] According to Japanese recorde, Jimmu was the first of the Imperial line. (Died 585 B.C. ?)

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It occurs extensively wherever there are dolmens, and is also found in all groups of the later non-dolmen mounds, but is never associated with stone implements, or with any objects earlier than the Iron Age.

The earliest of this pottery is coeval with the beginnings of dolmen building, which for reasons to be afterwards assigned is not probably later than the beginning of our era. So that the old and oft-repeated legend attributing the introduction of the potter's wheel from China to the priest Gyōgi, who is also said to have been the first maker of this pottery, in the latter half of the seventh century or the first half of the eighth, has not the slightest foundation in fact.

The decoration of this pottery is of a very simple character, and is restricted to the exterior of the vessels. The potter was yet unacquainted with the use of pigments for colouring or painting his wares, and his efforts in ornament were generally confined to arrangements of straight or curved lines scratched in the clay when soft, with a single pointed tool, or with combs with a varying number of teeth. Designs in bas-relief are never found. Not unfrequently, however, figures of birds, animals, and men are rudely modelled on the shoulders of vases, but no incised representations of these, or of designs derived from them, or from plant forms, appear on any vessel. As we have already seen, vessels with pedestals often have these pierced with triangular, rectangular, or circular perforations, which may have been intended as a form of ornament.

Ruder than any of the above are the marks of matting which more or less cover the external surface of some, especially the larger jars. The interiors too of many of the large vessels are often marked with series of concentric circles confusedly overlapping, which have been stamped into the clay when soft. This however is not intended as ornament, but is due solely to the mode in which they have been treated in order to make their sides dense and solid and free from porosity. Thus, whilst the vessel was being gently turned on the wheel, a wooden stamp with concentric circles cut on its head was pressed against the inside, at the same time that the outside was beaten with a flat wooden paddle wrapped in matting. These circular markings are termed by Japanese archæologists *Chōsen-guruma*, "Korean wheels," or *Chōsen-nami*, "Korean waves," because it is supposed by them that they were introduced from Korea. This is an entirely erroneous assumption, as, although I have seen this mode of manufacturing pottery in operation in Korea, yet the pottery of the old burial-mounds of that country never bears these markings, and they are only found on vessels of modern or comparatively recent date.

From my exploration of the sites and rubbish-heaps of three ancient potteries

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which I discovered in the province of Settsu, and which from their extent could hardly have been exclusively employed in the manufacture of sepulchral pottery, I am led to the conclusion that many of the vessels found in dolmens, such as the bowls and jars, are not different from those in domestic use at the time. Some of the tazzas, vases on pedestals, and a few other forms, were, however, most probably purely ceremonial vessels.

This dolmen pottery of Class II. may be divided into three groups, viz.: 1. Food Vessels; 2. Vessels for Water or Wine; 3. Vessels for Ornamental Use.

In each group the variations in shape and size are so numerous, that I can only select a few of the chief typical forms for description. Illustrations of these are given in fig. 38.

1. Food Vessels.—These consist chiefly of the following:

Shallow bowls or dishes with covers, usually about 6 inches in diameter and 3½ inches to 4 inches in height.

Tazzas with and without covers, 4 inches to 9 inches high, but sometimes of much greater size.

Wide-mouthed globular jars, from 3¼ inches to 1 feet 6 inches high.

A description of the shallow bowls, fig. 38*b*, and of the largest kind of tazza, fig. 38*f*, have been given.

In figs. 38*a* and 38*d* are represented two varieties of the smaller tazzas covered and uncovered, both having vertical slits in the pedestals. The form 38*d*, 7½ inches high, is the most common. They were used for offerings of food, and were placed on the floor of the dolmen chamber on one side of the body, or of the sarcophagus.

The use of tazzas for offerings still survives in ancestral worship at the ancient Shintō temple of Kasuga, at Nara, where they are employed in the daily ceremonial presentations of food in front of the shrine. The tazzas so used there are of the rudest terra-cotta, shaped roughly by hand without the use of the wheel, and, although made at the present day, closely resemble the most primitive pottery of the earliest burial-mounds, in fact they cannot be distinguished from it.

The wide-mouthed jars, of which one is shown in fig. 38*m*, present few features of interest. They are rudely shaped globular vessels, with necks varying in length and form. Their decoration is usually confined to one or two bands of incised undulating lines resembling waves, made with a comb of six or more teeth, around the outside of the neck, the body being more or less covered with marks of matting and the interior with concentric circles. The larger specimens

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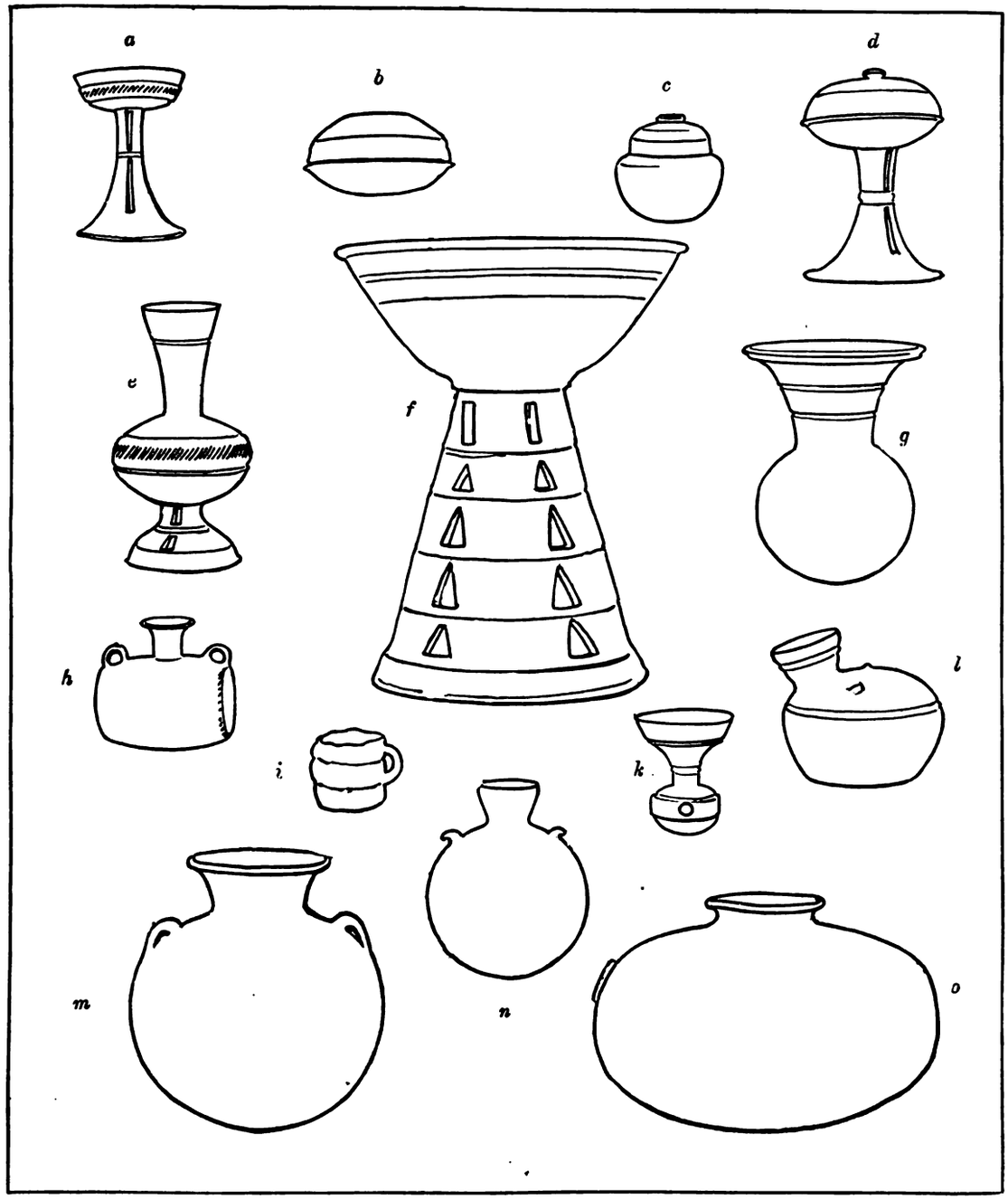

Fig. 38. Chief Types of the Pottery of Class II. from Dolmens. $\frac{1}{8}$ linear.

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may have contained grain or water, but the smaller were also used as receptacles for ornaments, especially for the curved beads (*magatama*).

2. Vessels for Offerings of Water or Wine.—Although some of the jars just described may have been used for offerings of water, yet many dolmens have yielded a special and characteristic form of water vessel, fig. 38*o*. This is a kind of earthenware barrel with rounded ends and a wide mouth in its side. Its average size is about 1 foot 4 inches long by 11 inches wide. A vessel of precisely the same form, excepting that sometimes one end is flat, is in use at the present day in Seoul, the capital of Korea, for holding and carrying water. Those I saw were inclosed in a slight frame of wistaria stems, with loops above for handling them when they were being filled and emptied. They were carried on the back, resting in a wooden frame. Like the ancient Japanese vessel, they are covered with marks of matting on the outside and with concentric circles on the inside.

The other vessels, bottles, and vases, etc. which were used for water or wine, exhibit an endless variety of forms. One of the most frequently occurring types of the former (fig. 38*n*) closely resembles the so-called pilgrim bottles of ancient Cypriote pottery, but has mere loops or curved lugs instead of handles. It is of a compressed sphericals hape, one side being flat, the mouth being placed in the circumference. They were, doubtless, used as flasks, being bound with wistaria stems or split bamboo, so that they might be suspended from the neck or shoulders.

Another form is shown in fig. 38*l*. In this, the mouth of the vessel is placed excentrically in the rounded top. The capacity of both these forms varies from half a pint to a quart.

Fig. 38*h* is a small barrel-shaped vessel, also resembling a Cypriote form, which has been found in several dolmen groups, but is rather uncommon. The specimen is about 8 inches long and has two loops for suspension.

Perhaps more interesting than the preceding are the libation vases, one of which is represented in fig. 38*k*. I may say that libations of wine are still made before mountain shrines in many parts of Japan, and they form an essential part of certain pagan rites now practiced in Korea.

Besides the above forms, several vessels made in imitation of leathern bottles, with the stitched seams carefully modelled, have been found in the dolmens of northern Kyūshū, to which district they seem to be peculiar.

The convenience of handles and lipped mouths for vessels containing fluids

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does not seem to have been recognised by the dolmen builders. On only one kind of vessel, a sort of mug (fig. 38*i*), and this has been found only in Kyūshū, is there a well-formed handle, in all others such rudimentary forms as knobs, lugs, and loops alone occur.

3. Ornamental Pottery.—This embraces all those vessels specially intended for the decoration of the sepulchral chamber, either by reason of their ornamental forms, or for holding offerings of flowers or more probably of sprigs of foliage. Of these there is also an endless variety, especially of vases, many of which are of elegant outline but of the same primitive decoration that we have seen on the preceding vessels. One of the most common, and of wide distribution, is a vase with a long neck and a pierced pedestal (fig. 38*e*). Another of somewhat rarer occurrence has a globular body without pedestal or foot, and a neck expanded into a wide trumpet-shaped mouth (fig. 38*g*).

More elaborate forms also occur but they are confined to the dolmens of chiefs whose rank or power entitled them to specially sumptuous appurtenances of the tomb. They are of marked importance, as the modelled groups of figures with which they are sometimes ornamented afford us a few glimpses of the manners and customs of the early Japanese.

Plate XLI. figs. 1 and 3, represent two of three covered vases which I obtained from the dolmen in Tamba, along with the magnificent horse bits and metal work which we have already described. They are 1 foot 4 inches in height and have pierced pedestals similar to those of the largest tazzas. Four miniature vases are attached to their shoulders. These vessels were found at the side of the cist-like space containing the body.

Another curious form from a dolmen in Kawachi is the triple vase,[a] consisting of three vases fastened together on a pedestal (Plate XLI. fig. 2). At the points interiors of junction with one another a small circular hole is pierced so that their communicate.

This vessel resembles, both in size and form, one which was dug up by Dr. Schliemann at Troy,[b] excepting that the latter has no pedestal.

The vase,[c] Plate XLI. fig. 6, is from one of the dolmen groups in the province of Bizen. It is 1 foot 1 inch high. On its shoulders there are three small vases and between them, very rudely modelled, are represented a stag and three does, a boar, a dog, and four men rowing in a boat. In fig. 7 the boat is represented half its full size.

[a] British Museum. [b] *Ilios*, p. 384, fig. 356. [c] British Museum.

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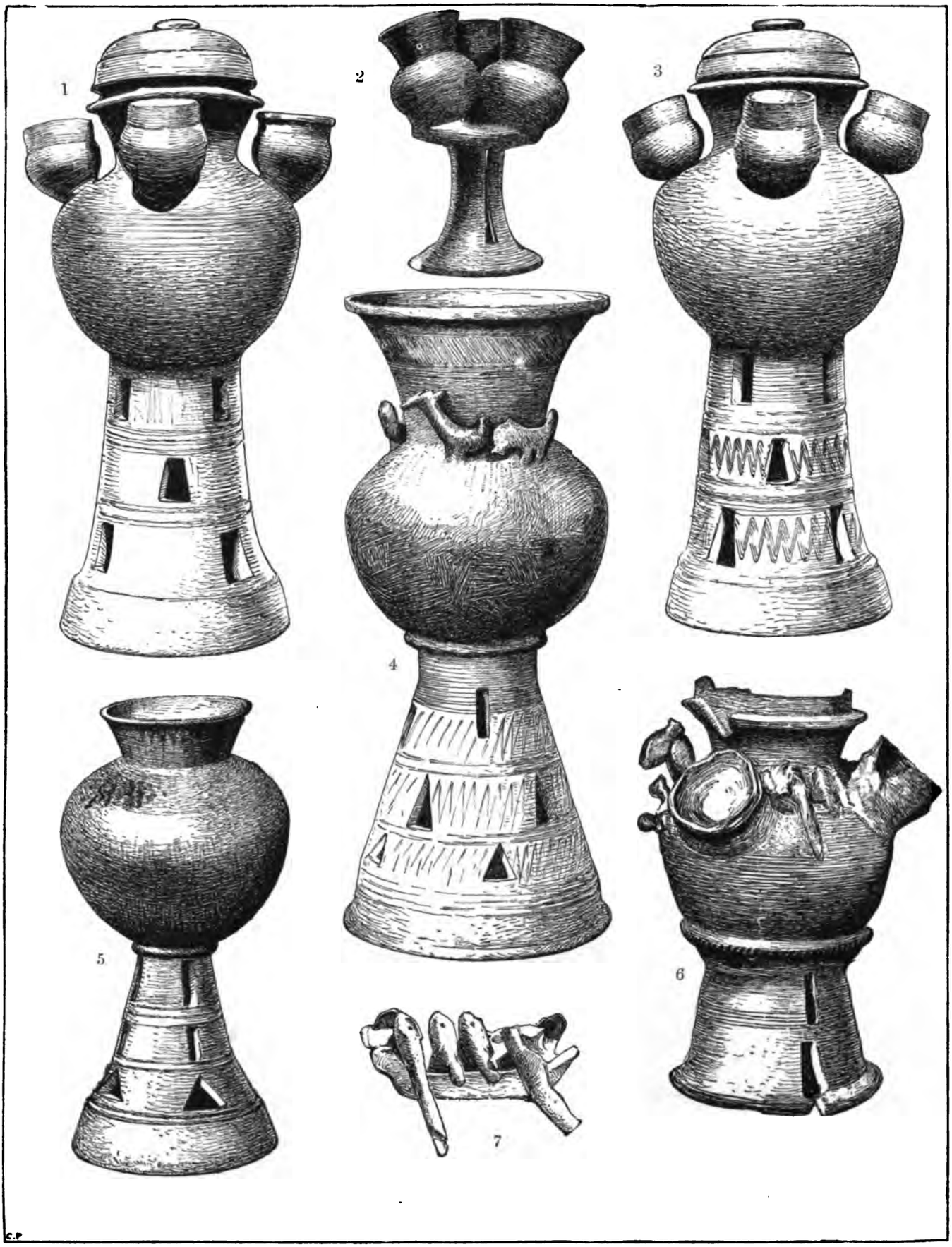

ORNAMENTAL POTTERY.

¼ linear (excepting fig. 7).

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Another vase[a] (Plate XLI. fig. 4) is from the province of Kōtsuke. Its height is 1 foot $8\frac{5}{8}$ inches. There were originally seven figures on its shoulders, three are wanting, the others are a stag, boar, and two birds difficult to identify, all of the same rude modelling as the last.

The vase,[b] Plate XLI. fig. 5, is from the province of Yamato.

Thus far we have seen the ancient potter ornamenting with these modelled figures the same shapes which characterise his less pretentious productions and decorating their surfaces with the same primitive patterns in incised lines.

The next example[c] (fig. 39) shows a marked advance in his art, the body and pedestal are of well-proportioned and even elegant forms, much of the archaic character has been lost, and although the incised line decoration survives, the lines are differently arranged, and the old wave-pattern has gone. This is also from Bizen and from the same department as the last. It is about 2 feet in height and although of coarse grey pottery is a very handsome vessel. On the shoulders we have three small vases, and between two of them are two men engaged in wrestling, and on their right the umpire, whose duty it was to prevent unfair throws. The other groups are imperfect.

Fig. 39. Ornamental Vase. Bizen. Height 23½ inches.

Figures of idols are never seen on any of these vessels of pottery; representations of human life, or of animals or birds of the chase alone occur. It is just possible that the scenes shown on them, as those of wrestling, the deer hunt, etc., are intended to represent the sports and pastimes to which the dead warrior was devoted, or in which he had displayed marked skill. Scenes of victories in battle are never found, and their absence during this period of conquest is quite inexplicable. The absence, too, of Chinese motives, such as the tiger and dragon, which were intimately associated

[a] British Museum. [b] British Museum. [c] Imperial Museum, Tōkyō.

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with ancient Chinese sepulchral rites, is curious, and would seem to indicate that China at that period had less influence on Japan than has been supposed.

The coarse terra-cotta objects of Class III. are figures of men, women, horses, etc. and the tubes shown in fig. 11.

Another important feature of some of the ancient burial-mounds and dolmens is the terra-cotta figures which were set up on them at the funeral ceremonies.

Like many other races, the early Japanese practised that curious rite of animistic religion, the funeral sacrifices of men, women, and animals for the services of the dead.[a]

According to Chinese records contained in the *Isho-nihon-den*, translated by Mr. W. G. Aston, these sacrifices were carried on in Japan as late as the latter half of the third century of our era when on the burial of an empress one thousand male and female attendants accompanied her in death. It is just possible, however, if the record is correct, that the case mentioned may have been merely an example of a return to the ancient practice, as terra-cotta figures had been substituted for living retainers long before that time.

According to the *Nihongi* this substitution was made about the beginning of our era, but remains of these figures have been found on mounds which are probably of even an earlier date.

These figures are called by the Japanese *tsuchi-ningyō*, a term merely signifying " clay images." They are made of lightly-burnt coarse terra-cotta, generally red in colour. Owing to the perishable nature of this material when exposed to the action of the weather they would be rapidly destroyed as long as they stood above the ground, and only when by chance they were overturned and became covered with earth was there any possibility of their preservation; hence but few have

[a] In a paper entitled " On the Stone Figures at Chinese Tombs, &c," by Mayers, read before the North China Branch of the Asiatic Society, 12th March, 1878, the following examples of these practices in China are given:

678 B.C. Human beings were first slain at the grave of the deceased sovereign Wu Kung.
621 „ At the death of the Emperor Muh Kung 177 were slain.
210 „ At the death of the Emperor She Hwang-ti, concubines who had borne no children and others were put to death.

No other later instances are given, but it is recorded that at the tomb of Hoh K'ü-ping (117 B.C.) stone figures of men and horses were arrayed.

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survived, and most of these are in a fragmentary condition. Yet in nearly every dolmen district there are tales of their having been dug up.[a]

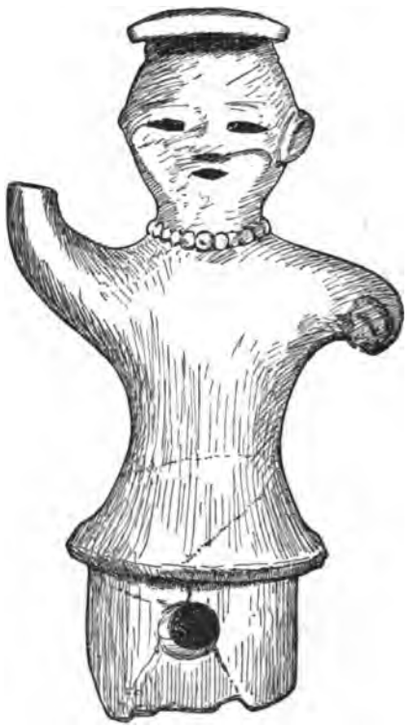

Fig. 40. Terra-cotta Female figure (*Tsuchi-ningyō*). ⅛ linear.

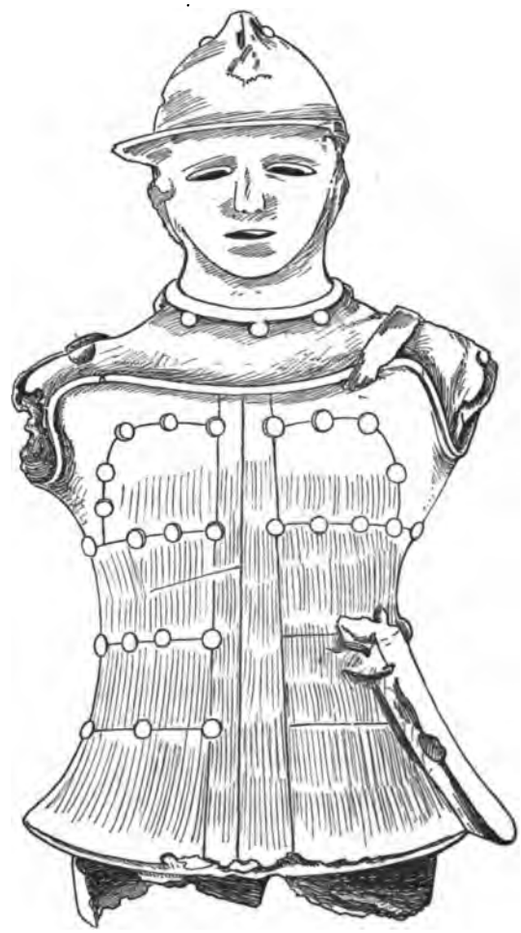

Fig. 41. Terra-cotta Male figure (*Tsuchi-ningyō*). ⅛ linear.

[a] In the province of Yamato after these sacrifices had ceased there was for some time a pretence of immolating victims. They were shut up in the chamber of the mound with the dead, but an opening was left through which they might escape. These persons termed *ombo* were, however, considered to be dead and had to live in districts specially set apart for them.

The custodians of burial-mounds formed another grade of men who were similarly compelled to live apart from the ordinary people. They were termed *shiku*. Both these grades usually carried on farming operations and were not regarded as being so low in the social scale as the *eta*.

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Unfortunately no records have been kept of the positions in which the existing specimens were found, but there is not the least doubt, judging from the forms of their pedestals, that they were set up above the surface of the mound and not buried within it. My own opinion, which is based on the positions in which I found a pedestal on one mound, and numerous fragments of terra-cotta, not pieces of ordinary tubular *haniwa*, on others, is, that they were set up in an erect position on the level summits of the circular mounds and of the round peaks of the double mounds.

In figs. 40 and 41 are shown two typical examples of *tsuchi-ningyō*.

Fig. 40 represents one of the most interesting of these archaic figures, from a mound in the province of Kōtsuke, which I was fortunate in being able to secure, and it is now in the British Museum. Its height, measured from the top of the

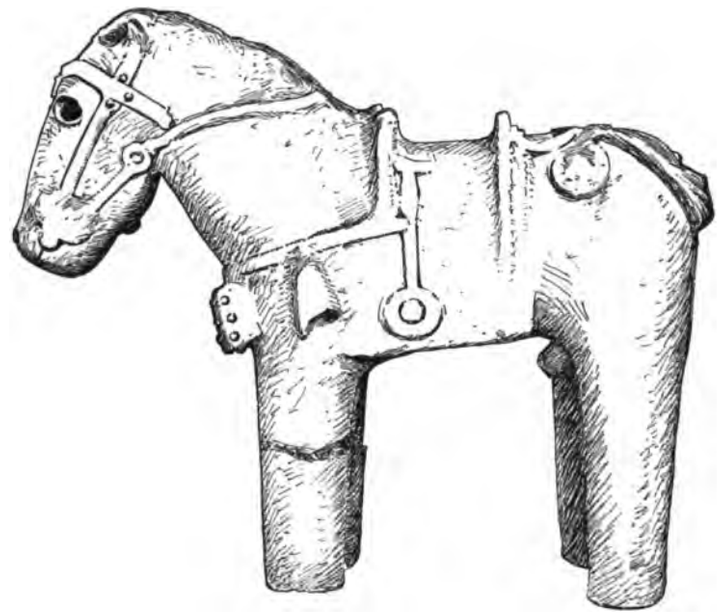

Fig. 42. Terra-cotta Horse. $\frac{1}{10}$ linear.

pedestal, is 1 foot 5 inches. From the mode in which the hair is arranged it is evidently intended to represent a woman. Around the neck is a necklace of round beads. Other fragmentary female figures have this necklace, as well as bracelets of similar beads. The pedestal is in the form of a tube, pierced with two holes,

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through which a bar of wood was probably fixed in order to assist in keeping the figure upright.

Fig. 41 is a copy of a Japanese drawing of a *tsuchi-ningyō* representing a warrior, also from a burial-mound in the province of Kōtsuke. The original figure is 1 foot 11 inches in height, measured from the top of the pedestal to the crown of the helmet. The cuirass is evidently formed of plates joined by rivets, and of the same form and construction as that from the Higo dolmen described above. The helmet is also of riveted plates.[a]

Fig. 42 represents one of the terra-cotta figures of horses which, like the human figures, were also set up on burial-mounds. It was found on a mound in the village of Kamichūjo (Musashi), and is now in the Imperial Museum, Tōkyō. Its dimensions are: height to the top of the back 2 feet 1 inch, extreme length 2 feet 11 inches. The cheek-pieces of the bit had originally six small bells, of which only one remains, attached to their rims, like those of the Higo dolmen. The stirrup-irons, too, are evidently of the same form as those from that tomb. The positions of the larger bells, and of the ornamental metal plates, are clearly indicated, although the latter are represented of a somewhat different shape from those usually found.

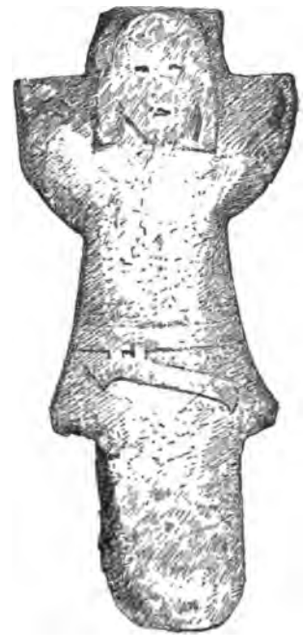

Fig. 43. Stone Figure from a Dolmen mound.

Besides these terra-cotta figures, rudely carved stone figures were also sometimes placed on mounds. The name *hayato*, or "palace guards," is usually applied to them. They are of very rare occurrence and were probably never in extensive use. One of the few which have escaped destruction is shown in fig. 43. It was found on a burial-mound in the province of Chikugo, in Kyūshū. It is a flat slab 3 feet in height, including the pedestal, and 6½ to 7 inches thick, roughly hewn to represent a man wearing a dagger. On the back are perpendicular incised lines, which are supposed by some to represent arrows.

The mound from which it was taken is one of the double form and formerly contained a dolmen, but now all the stones have been removed. On an old

[a] According to the curator of the Imperial Museum, Tōkyō, the date of this kind of armour is about the fourth century of our era.

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engraving (1797 A.D.) this figure is shown in position on the mound, not on the summit where the terra-cotta figures were placed, but in front of the dolmen, a little to the left of its entrance.[c]

On one mound near Nara (Yamato), apparently of post-dolmen times, these guardians of the tomb were represented by three rude boulders, one side of each of which was smoothed and had incised on it, in deeply cut lines, a rough drawing of a human figure having the head of a hare. They are now in the temple Tōdaiji.

Age of the Dolmens.

Two important questions remain for our consideration. First, who were the builders of the dolmens? Second, what was the date and duration of the period during which they were built? Both these I shall endeavour to answer, as far as is possible, from the results of my explorations of the dolmens themselves and examinations of their contents, referring in a few instances only to ancient Chinese and Japanese records.

That the builders of the dolmens were not the aboriginal inhabitants of the country is very conclusively proved by the evidence afforded by the "Kitchen Middens," or shell-mounds, which are found at many points on the coast of the main island, and also in Kyūshū. The contents of these mounds consist of bones of men and animals, shells, stone implements, together with vessels of pottery, but without any objects of metal whatever. The same remains become more and more abundant as we proceed to the northern extremity of the country, and still more so when we enter Yeso. The pottery is entirely distinct in its material and in the shapes of the vessels, and the nature of their decoration from that which occurs in the burial-mounds and dolmens, and neither it nor the stone weapons have ever been found in them. Neither have any pieces of dolmen pottery or anything characteristic of dolmens ever been found in shell-mounds. The identity of these remains, whether found in Yeso, or in the extreme west, prove un-

[c] In the *Shaku Nihongi* (written in the thirteenth century) it is stated that there were then many other figures of men and animals on this mound.

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doubtedly that they belong to the aborigines, the Ainu, who once occupied the whole country and were gradually driven back to the north by a more powerful race. The contents of the burial-mounds and dolmens afford no evidence of more than one invading race, and there is such a continuity in the forms of the metal work, and especially of the stone ornaments and pottery from the earliest of these remains up to those of historical times, that we must admit that the people of that race were the ancestors of the present Japanese. There were doubtless several immigrations, but only of kindred clans. Whence they originally came is a problem so far unsolved, and the present available *data* are far too scanty to enable me even to theorise with profit on the approximate locality of their original home. But the distribution of the dolmens and burial-mounds on the coasts opposite to Korea affords very weighty evidence in favour of their having come through that country.

The island of Tsushima is so near to the Korean peninsula as to be visible from it in clear weather, and from Tsushima the outlying islets of the island of Kyūshū are also clearly seen. It is hence extremely probable that the chief immigration of the race took place by that route.

Strange to say, their traditions and the mythical legends relating to their origin only tell of Kyūshū as their birthplace, where they first arose as descendants of the gods, and are silent about any migration from the mainland, although that must have been one of the most important events in their early life.

The date of that immigration is shrouded in the mists of a far distant age and does not admit of even an approximate determination. The race seems, however, to have been settled in Kyūshū and parts of the main island for some time before they became dolmen builders, during which they erected only simple mounds for the reception of their dead. From the bronze swords and the moulds used in casting them, which have been chiefly found in Kyūshū, and the shores of the west part of the inland sea, never along with iron objects and never in dolmens, we may, I think, infer that they were then in the latter part of their bronze age and that before they advanced further eastwards they had become acquainted with iron.[a]

The dolmens are certainly all of the iron age, and were apparently first built

[a] There is no evidence of a copper age in Japan, but contemporaneous with the early iron age and up to the sixth or seventh centuries of our era we find copper in more extensive use than bronze as a decorative metal.

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by the Japanese very shortly after they had become acquainted with the metal. No bronze swords have ever been found in them; bronze arrowheads are said to occur occasionally, but associated with iron swords, although I have never found any myself.

Whence the early Japanese derived the idea of dolmen building it is very difficult to say, and it is extremely improbable that it originated independently with them.

No dolmens have been found in China, but no systematic archæological explorations have been made in that country and they may perhaps yet be discovered.

In Korea there are dolmens, but they are merely cists with megalithic capstones[a] similar in structure to those of Western India, but having no points of resemblance to those of Japan. In fact, until passing westwards through Asia we reach the shores of the Caspian Sea only then do we find dolmens at all similar to the Japanese, and for still more closely allied forms we have to go still farther to Western Europe. It may be that the Korean dolmen is the germ from which the Japanese dolmens were developed, but if so, it is strange that not a single example of it is found in Japan.

The direct determination of the date when the Japanese first began to build dolmens is beset with great difficulties on account of the insufficiency of trustworthy *data*. Yet by calculating back from the time when dolmen building was given up, the length of the period during which it was carried on may, I think, be computed, and the date of its beginning ascertained with a possible error of not more than one or two centuries.

The approximate date of the termination of dolmen building may be taken as lying between 600 and 700 A.D., although such a time-honoured custom may have lingered on for some years afterwards and probably survived until a very much later period for some imperial interments.

The evidence on which the above approximate date is based is derived chiefly from the metallic contents of the dolmens, more especially from the form of the iron swords, and the technique and ornamental designs of their furniture, and of other objects of metal.

The famous collections of antiquities in the ancient treasure-house, the Shōso-in,

[a] Gowland, "The Dolmens and Antiquities of Korea," *Journal of the Anthropological Institute*, xxiv. Pl. xvi. p. 330.

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and in the temple Tōdaiji, at Nara, afford much valuable aid in this determination. The collection in the Shōso-in was made in 784 A.D., when the court was removed from this ancient city to the province of Yamashiro.

Specimens of all the articles in use at the palace at that time, as well as other representative objects, were then placed in this treasure-house, which was specially built for the purpose, and they are there at the present day. Other specimens in Tōdaiji represent the early part of the Nara epoch (709-84 A.D.). Now, with the exception of one or two straight blades, which are said to have belonged to the Emperor Shōmu (died in 756 A.D.), all the swords in these collections differ entirely from those of the dolmens, both in blades and furniture. In neither is there a single specimen of the oviform pierced guard and bulb-like pommel which are especially characteristic of the dolmen period. The straight sword had, in fact, died out and been replaced by the slightly curved blade, which is never found in dolmens.

The curious mode, too, of coating iron with copper, so extensively practised in dolmen times, is not seen in any object in these collections, and when copper is used the objects consist entirely of it.

Again, the archaic ornamental designs executed in lines of punched dots have also been given up, and in their place we have elaborate patterns in incised and *repoussé* work. Hence we may, I think, infer that the dolmens are older than the eighth century.

Negative evidence in favour of their being earlier than the seventh century is as follows:

No pewter has been found in them, although pewter vessels were in use in that century.

Coins, too, are absent, although they were then in circulation.

Bronze objects are rare, yet the metal was then in extensive use.

The testimony of the ancient literature also affords support to the approximate date I have given above. According to the *Nihongi*[a] (Chronicles of Japan), compiled in 700 A.D., a special decree was made by the Emperor Kotoku, in 646 A.D., relating to burial-mounds and their chambers, and fixing their dimensions for various ranks, also enacting that the chambers should be built of small stones, and that valuables should not be buried in them in honour of the dead. If this decree

[a] Translation by W. G. Aston, *Supplement to Transactions and Proceedings of the Japan Society* (London, 1896), ii. 218 *et seq*

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was enforced, and there is no reason to doubt it, megalithic dolmen building must have then terminated.

Whilst, if we compare the dimensions given in the decree with those of any of the dolmens I have explored and measured, it will be seen that there is not a single case in which they exactly agree, and only four in which they even roughly approximate, and these are megalithic. In fact, none I have examined correspond in dimensions and structure with its provisions, and therefore are presumably of earlier date.

The total abolition of burial in dolmens about fifty or sixty years later by the Emperor Mommu (697-707 A.D.),[a] and the introduction of cremation about the same time, is in favour of this view.

The oldest inscribed stone which I have found, which may be regarded as a tombstone, is on a mound not containing a dolmen, attributed to the Empress Gemmyō, and bears the date 721 A.D.

The date when dolmen building began in Japan does not admit of such an approximately definite determination. The evidence we have to guide us is for the most part vague in character and liable to misinterpretation, and in traversing the field it covers we feel we are often treading on uncertain ground. It is, however, by no means advisable that this question should be altogether evaded, I will therefore venture to attempt its solution, and to assign a roughly approximate time for the advent of this mode of burial, although I do so with all reserve. More systematic exploration will have to be made, especially in Yamato, Izumo, and the Island of Kyūshū, before it can be accurately fixed. One point is certain, *i.e.* that all Japanese dolmens are of the Iron Age, none have been discovered containing only bronze, and none containing implements of stone. The period during which they were built is characterised from its beginning to its close, as I have already pointed out, by its iron swords, the shape of which is entirely distinct from those of bronze. No intermediate forms showing a transition from one to the other have been found, it is hence not unreasonable to conclude that these iron swords were introduced from abroad.[b]

It is also by no means improbable that dolmen building was introduced about

[a] *San Ryō Shi*, a Japanese treatise on burial mounds.

[b] Some of these swords may perhaps even have been imported at first, but they are so numerous and so widely distributed that most must have been made in the country, and this view is strongly supported by the fact that in the west provinces there are vast deposits of magnetic iron sand, an ore easily reducible in the most primitive furnaces.

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the same time, as this special form of sword has been rarely found in the early simple burial-mounds. Now as iron was known and in use in China as early as 1000 B.C. (Legge), and there was communication between Japan and that country at least as early as 265 B.C., the Japanese could hardly have failed to have then learned the use of the metal, and at the same time to have become acquainted with iron weapons if they had not this knowledge already. It would hence seem to be not unreasonable to assume that not much, if at all, later than this date dolmens began to be built.

The rudeness and megalithic character of the structure of a dolmen, it might be supposed, would afford some clue to its age, but in Japan these features by no means always imply great antiquity.

An exact chronological arrangement of the various types is also impossible, although, I think, the earliest dolmens will be found among those of the simplest plan, such as the *allées couvertes*. From this simple form, in the course of time, was developed the type having a distinct chamber and entrance gallery, and from this again the more highly differentiated dolmen with double chambers was evolved. A still later phase is exhibited in the six dolmens of well-hewn and coursed masonry in the provinces of Yamato and Izumo. If this view of the gradual evolution of the complex from the simple dolmen is correct, then I think we must admit that a long period of time must have been required for its accomplishment. If we allow seven or eight centuries for these developments, and this hardly seems to be a too liberal allowance, then as we have seen dolmen building ended 600 to 700 A.D., the approximate date of its beginning would be shortly before our era, a computation not differing very greatly from that given above.

The evidence derived from the number of dolmens in the country is also not without value in this computation of the length of the dolmen-building age. I have examined in all 406. Besides these, according to the estimates of local officials, village headmen, and farmers in the districts in which they occur, there are not less than 800 others including those which are more or less completely ruined. The total number of dolmens would hence be about 1,200, but this, I think, is decidedly an under-estimate and certainly falls very far short of the actual number originally erected. In every province there is abundant evidence that very many have been destroyed and the geographical names of some of the dolmen districts testify to this, thus we have Yaso-dzuka (the eighty mounds) where only fifteen remain, Sen-dzuka (1000 mounds or "great many") where there are now only about forty.

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Now from their construction necessitating the labour of a large body of men, and from the nature of their contents, it will, I think, be admitted that they can only be regarded as the tombs of chiefs or of men in authority and not of the common people. Hence, as their number is so great, and their distribution is chiefly confined to a few centres of limited area and does not extend over the whole country, the period during which they were erected must have been of considerable length, and I would again suggest seven or eight centuries as its probable minimum duration.

From these considerations it would then appear that the beginning of the dolmen period may not have been widely separated in time from the commencement of our era, although it must be remembered that one or two isolated examples would tend to place it in an earlier age.

The scarcity of iron, excepting in dolmens, the rare occurrence of bronze swords in burial-mounds, and the absence of any evidence of the Japanese having been in their stone age in the islands, and their undoubtedly long settlement in the west parts of the country, are also in favour of a more remote date.

A considerable amount of light is thrown on the history, customs, and civilisation of the ancient Japanese by the dolmens and their remains.

In the early part of the period during which they were builders of dolmens, they seem to have been a collection of independent or semi-independent clans of the same race, armed with the same weapons, and having the same burial customs and religious beliefs. They occupied certain distinct centres now marked by extensive groups of dolmens and burial-mounds. These are scattered somewhat irregularly over the country, generally not far from the coast, and are separated from one another by more or less wide tracts of country where few or no dolmens are found. The country was then in fact only very partially occupied by them.

The chief centres are, as I have already pointed out, four in number, viz.

1. The Kyūshū centre, embracing the northern and eastern province of the Island of Kyūshū.
2. The Izumo centre, embracing the provinces of Izumo, Hōki, and Inaba.
3. The Yamato centre, embracing Yamato, Kawachi, and the neighbouring provinces.
4. The Musashi centre, embracing the provinces of Musashi, Kōtsuke, and Shimotsuke.

To these may perhaps be added another, Bizen, and its adjacent province, Bingo, although it is just possible that this centre is of later date than the others.

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The province of Yamato, according to Japanese ancient records, was the locus of a central government. Its chief rulers are styled emperors, and are held to have been supreme in authority over the whole nation from the earliest times; but this is open to serious doubt so far as the early half of the dolmen period is concerned. The characteristic form of burial-mound for the Yamato rulers of that time is the huge double mound already described, fig. 10; but precisely the same form of mound is also found in the other centres associated with their groups of dolmens. It is true that these mounds are more numerous, and some are larger in the Yamato centre than in the others, yet, unless the clans occupying the latter were independent, or their rulers were regarded as the equals of the Yamato chiefs, no mounds of this so-called imperial form should be found in them at all. Besides, the objects which have been found in the dolmens of these other districts indicate even greater wealth and magnificence of display than those found in the Yamato centre, to which the sites of successive imperial courts are assigned. The Yamato rulers subsequently acquired sway over them, but not until a considerable part of the dolmen period had elapsed. The other less important groups of dolmens, which form as it were outliers from the chief centres, probably mark the sites of military posts, established to hold the aborigines in check, and so afford security to the main body of the clan settled on the greater plains.

The close resemblance of the contents of the dolmens in all these centres, and the similarity in the structure and form of their chambers, in spite of a few local modifications, show conclusively that in all we have to deal with one race only. The weapons, ornaments, and pottery are, with few exceptions, practically identical.

From what has been stated, it will be seen that the dolmen period in Japan from its beginning to its close was characterised by a well-developed civilisation and a culture which had advanced far beyond the limits of barbarism. During it the clans of the race had driven out the aborigines from the richest portions of the country, had become a settled and united people, and had made great progress in the industrial arts.

The high stage in civilisation to which they had attained might have been thought incompatible with the rude structures of the dolmens of undressed stone which they erected as sepulchres for their famous dead, but the remains which these dolmens have yielded, which I have had the honour of describing, demonstrate conclusively that this is not so, but that weathered boulders and unhewn

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blocks were used in their construction with some definite object, probably a religious one, the meaning of which is not apparent, and not because the art of stone cutting was unknown.

Many points, however, are still obscure about this important period in the life history of the Japanese race. More explorations are required for their elucidation, and still more for tracing back that history further in pre-dolmen times. Yet I hope that those it has been my privilege to make and the facts I have endeavoured to elicit from them, may be deemed to be of sufficient interest to justify me in bringing them to the notice of the Society.

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APPENDIX.

TABLE I.—DIMENSIONS, ETC. OF JAPANESE DOLMENS.

The dolmens contained in this Table, excepting Nos. 111 to 114, were specially examined and measured by the author, as they are the best preserved examples in the provinces mentioned.

The length and breadth of the chamber and gallery in each case are the dimensions at the floor line.

When the position of the gallery is not given, it is on the median line.

No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. BIZEN.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in	ft. in.			
1	Nr. Okayama	12 9	5 5	5 0	—	—	—	—	S. 40° E.	Destroyed	"Allée couverte." Roof of three stones not covered by mound.
2	Do.	15 0	2 1	1 10	—	—	—	—	S. 10° W.	Simple conical	A long cist built of small stones.
3	Do.	31 6	5 6 to 7 1	8 0	—	—	—	—	S. 35° E.	Destroyed	"Allée couverte." Roof stones about 5 feet to 6 feet by 10 feet partly uncovered.
4	Do.	14 2	5 0	—	Impf.	4 3	—	—	S.E.	Do.	Ruined dolmen. Gallery in line with W. wall.
5	Do.	15 5	6 8	—	Do.	5 2	—	—	W. 5° S.	Do.	Ruined dolmen. Gallery in line with N. wall.
6	Do.	17 3	7 10	8 6	29 6	4 0	6 1	46 9	S. 10° W.	Simple conical	Roof of chamber of four stones.
7	Do.	15 0	6 0	6 10	11 5	6 4 to 4 3	4 5	26 5	S. 15° E.	Destroyed	Largest stone 10 feet by 4½ feet by 4½ feet. Gallery in line with E. wall.
8	Do.	17 0	5 1	3 10	—	—	—	—	S. 15° E.	Simple conical	"Allée couverte." Contains hewn stone sarcophagus.
	PROV. BUZEN.										
9	Nr. Kaharu-machi	5 10	5 0	4 2	Impf.	2 6	3 2	—	S. 30° E.	Do. ruined	Chamber roof of one stone.
10	Do.	6 0	5 4	5 0	24 0	2 1	3 10	30 0	S. 40° E.	Do.	
11	Do.	8 3	5 6	7 3	Impf	2 4	4 1	—	S.E.	Do.	Chamber roof of one stone. Walls also megalithic.
12	Do.	Inner chamber. 6 0	5 0	7 0	Imperfect.			—	S.	Do.	Dolmen with double chamber.
		Outer chamber 4 0	5 0	7 0							
13	Nr. Kuroda	Inner chamber 10 9	10 8	12 1	41 6	7 0	7 5	68 6	S. 10° E.	Simple conical	Dolmen with double chamber of fine megalithic structure. Inner chamber contains a hewn stone sarcophagus.
		Outer chamber 7 4	7 0	11 7							

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No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. BUZEN —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
14	Nr. Kuroda	Inner chamber. 12 3	9 9	12 9	27 0	6 7	8 2 to 10 4	56 0	S. 30° E.	Terraced conical, with a square base	Dolmen with double chamber. Several immense stones in both these dolmens.
		Outer chamber. 9 3	6 0	9 8							
	PROV. HARIMA.										
15	Nr. Himeji	18 3	7 4	7 0	15 0	4 10	5 4	33 3	S.	Simple conical	Roof of chamber of three stones. Contains sarcophagus of hewn slabs.
16	Do.	8 0	5 10	4 1	6 9	3 7	3 1	15 0	S. 10° W.	Do.	The roof and each wall of the chamber are single stones. Gallery in line with W. wall.
17	Do.	12 5	7 4	9 6	Impf.	4 0	3 11	—	S. 15° W.	Do.	Gallery in line with E. wall.
	PROV. HYŪGA.										
18	Nr. Tsuma	15 6	7 0	7 1	23 0	5 6	5 7	38 6	S. 5° E.	Terraced conical	Surrounded by moat 35 feet wide.
	PROV. HŌKI.										
19	Nr. Nagase	8 0	7 8	—	8 0	5 0	—	16 0	W. 23 S.	Simple conical	Roof stone of chamber 13 feet by 10 feet 6 inches by 2 feet. Gallery in line with S. wall.
20	Nr. Kurayoshi	9 7	7 0	8 0	20 6	6 9 to 8 6	5 6	31 3	S. 15° W.	Do.	Both built of hewn stones, some of immense size. Chamber roof of No. 20 of one stone c. 12 feet by 13 feet by 4 feet. Chamber separated from gallery by hewn slabs. No. 21 contains a cist of slabs.
21	Do.	12 6	10 3	9 7	14 9	10 0	6 9	28 0	S.	Do.	
	PROV. IWAMI.										
22	Nr. Hamada	21 0	5 0 to 5 9	5 9	—	—	—	—	S. 5° W.	Simple conical	"Allée couverte." Roof of four stones.
23	Tsuda, near Masuda	17 0	5 9 to 6 8	7 8 to 6 8	12 10	4 4	5 6	29 10	S.	Do.	Chamber roof of five stones.
24	Do.	14 0	8 0	7 3	11 0	3 8	5 0	25 0	S. 10° W.	Do.	Chamber roof of three stones.
25	Do.	7 6	4 7	4 7	Impf.	4 0	3 7	—	S. 22° W.	Do.	Walls chiefly rounded boulders. Gallery in line with W. side.
26	Do.	11 6	4 3	5 10	—	—	—	—	S. 5° E.	Do.	"Allée couverte." Roof of five stones.

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No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV, IWAMI —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
27	Tsuda, near Masuda	16 0	5 8 to 2 1	5 0	—	—	—	—	S.	Simple conical	"Allée couverte." Roof of nine stones.
	PROV. IYO.										
28[a]	Asakura	17 3	7 2	7 5	11 1	4 7	5 1	28 4	S. 35° W.	Do.	Roof of chamber three stones.
29	Do.	18 9	7 0 to 5 2	7 2	7 3	3 4	4 5	26 0	E. 30° N.	Do.	Roof of chamber four stones.
30	Do.	13 0	5 6	6 0	Imperfect.			—	W. 30° S.	Do.	Gallery in a line with N.W. side.
31	Do.	13 6	6 6	8 0	10 0	3 8	4 3	23 6	S.W.	Do.	Chamber roof three stones.
32	Do.	19 0	7 0 to 5 8	7 10	5 9	3 6	5 8	24 9	N.W.	Do.	Chamber roof four stones.
33	Do.	17 0	6 6	8 0	Stones removed.			—	W.	Do.	Chamber roof three stones.
34	Do.	12 9	6 10 to 5 5	7 8	4 0	3 1	5 6	16 9	W. 20° N.	Do.	Chamber roof three stones.
35[a]	Do.	18 0	6 10 to 4 9	8 1	9 0	—	6 9	27 0	N. 10° W.	Do.	Chamber roof four stones. Gallery in a line with W. side.
	PROV. IZUMO.										
36	Imaichi	Inner chamber. 19 0	9 9	11 2	12 0	4 5 to 3 0	7 5	43 0	W. 30° S.	Terraced double mound	Rude megalithic double chambered dolmen. Contains two sarcophagi.
		Outer chamber. 10 0	8 0 to 6 4	9 0							
37	Do.	12 6	5 7	6 0	Impf.	4 8	4 6	—	S. 25° W.	Ruined	Walls of hewn, roof of unhewn, stones. Contains hewn stone sarcophagus.
38	Enya, near Imaichi	21 6	8 5	9 9	22 6	5 8 to 3 5	6 6	46 8	W. 25° S.	Do. double (?)	Built of large hewn blocks. Contains two hewn stone sarcophagi.
39	Yasui, near Imaichi	Inner chamber. 8 4	8 1	7 3	8 2	6 0	6 0	28 6	E. 40° S.	Ruined	Built of large hewn blocks. Contains two hewn stone sarcophagi in inner chamber.
		Outer chamber. 7 9	8 0	6 9							
40	Do.	12 10	7 0	7 9	Est. at 18 0	3 0	3 8	—	S. 15° E.	Simple conical	Built of rude stones. Contains two sarcophagi of hewn slabs.

[a] The dolmens of this group (28–35) are all constructed of weathered boulders mixed with broken blocks of granite. The largest stones are those of the roof.

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No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
		ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
	PROV. KAWACHI.										
41[a]	Hattorigawa	15 0	8 7	8 8	17 0	5 5	6 0	32 0	S. 25° W.	Simple conical	Gallery in line with E. wall.
42	Do.	11 0	7 0	9 6	13 6	4 6	5 5	24 6	S. 25° W.	Do.	Do.
43	Do	12 0	6 0	8 6	17 8	4 3	5 7	29 8	S.W.	Do.	Do.
44	Do.	13 6	7 2	10 2	19 0	5 2	5 6	32 6	S.W.	Do.	Do.
45	Do.	12 1	6 7	9 0	17 8	5 0	5 4	29 9	S. 40° W.	Do.	Do.
46	Do.	11 8	6 3	8 8	11 10	4 2	4 5	23 6	S. 30° W.	Do.	Do.
47	Do.	12 8	7 2	9 10	9 0	4 8	6 0	21 8	S. 10° W.	Do.	Do.
48	Do.	10 8	6 5	7 10	Impf.	4 4	5 0	—	S.W.	Do.	Do.
49	Do.	Inner chamber. 11 0	7 0	9 6	12 6	6 6	5 3	43 0	S. 35° W.	Simple conical	Double chambered dolmen
		Outer chamber. 14 6	8 0	11 0							
50	Do.	12 0	9 6	11 9	19 6	5 9	5 5	31 6	W. 12° S.	Do.	Contains portions of a sarcophagus of hewn slabs.
51	Do.	16 0	9 9	11 6	24 9	5 5	5 9	40 9	W. 5° N.	Do.	
52	Do.	10 8	5 5	7 8	13 4	4 1	5 4	24 0	S. 40° W.	Do.	Gallery in line with E. wall.
53	Yamatake	18 0	8 0	9 6	21 5	4 6	3 8	39 5	S. 25° W.	Conical with doubtful terrace	
54	Do.	11 6	8 0	10 6	16 0	4 8	4 10	27 6	S. 5° W.	Simple conical	Gallery in line with E. wall.
55	Do.	13 4	7 9	10 3	Impf.	5 0	6 0	—	W. 40° S.	Do.	Do.
56	Shijo-mura	15 0	7 0	8 7	12 6	6 0	3 7	27 6	S. 20° W.	Do.	Do.
57	Do.	16 3	6 6	7 0	11 6	5 5	4 4	27 9	S. 5° E.	Do.	Do.
58	Do.	15 4	6 6	8 7	27 8	5 4	5 9	43 0	S.	Do.	Do.
59	Do.	20 6	7 2	9 10	28 6	5 10	6 2	49 0	S. 15° E.	Do.	Do.
60	Do.	14 6	5 8	8 3	18 6	3 6	4 10	33 0	S.	Do.	Do.
61	Do.	15 5	7 8	10 8	Impf.	5 6	5 8	—	S. 20° W.	Do.	
62	Do.	15 6	7 0	9 9	6 6	5 10	6 2	22 0	S. 20° E.	Do.	
63	Shiba-mura E. Side	13 8	Back 10 5	10 3	24 0?	2 11	5 1	—	S. 10° W.	Do.	
	Shiba-mura W. „	11 8	Front 7 11								

[a] The walls of the dolmens of these groups (41–80) are all built of rude unhewn stones, except where specified, often of large size. The roofs are megalithic in all, stones measuring from 9 feet by 7 feet to 14 feet by 9 feet being common.

The roof stones of many are bare, standing out above the earth of the mound. In a few cases the entire dolmen is exposed.

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No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
		ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
	PROV. KAWACHI —*continued.*										
64	Dōmyōji-yama, Nr. Kokubu	12 0	6 2 to 6 7	6 4	10 5	6 0	6 4	22 5	S. 5° W.	Simple conical	Gallery in line with E. wall. Contains hewn stone sarcophagus.
65	Do.	11 3	6 0	6 1	10 9	5 5	4 6	22 0	S. 5° W.	Do.	Do.
66	Do.	11 3	2 7	3 6	—	—	—	—	S.	Destroyed	Long cist. Walls of small stones. Roof exposed.
67	Do.	10 5	2 6	2 8	—	—	—	—	S. 20° W.	Do.	Do.
68	Do.	12 7	5 3	4 5	No gallery.		—	—	S. 10° W.	Do.	Dolmen standing above ground, with one stone for roof, and cist built of hewn blocks projecting beyond the back wall.
69	Do.	13 7	5 7	8 0	6 3	3 6	3 10	19 10	S. 7° W.	Do.	Dolmen entirely exposed. Gallery in line with E. wall.
70	Do.	16 4	5 0	7 0 Back 4 0 Front	—	—	—	—	S. 4. W.	Do.	"Allée converte" only partly covered with earth.
71	Do.	11 3	6 7	7 10	8 5	3 7	5 8	19 8	S.W.	Do.	Gallery in line with E. wall.
72	Do.	15 8	7 6 to 6 10	7 6	14 9	4 3	3 6	30 5	S 40° W.	Do.	
73	Do.	14 5	3 6	?	—	—	—	—	S.	Do.	"Allée converte."
74	Do.	26 0	6 0	Back 4 9 Front 3 10	—	—	—	—	S. 10° W.	Do.	Do.
75	Do.	10 0	6 0	6 8	12 0	4 9	4 5	22 0	S. 15° W.	Do.	
76	Do.	9 2	5 8	5 8	7 6	3 10	5 8	16 8	S. 15° E.	Do.	Gallery in line with E. wall.
77	Do.	13 6	6 0	7 6	14 0	4 2	3 6	27 6	S. 20° W.	Do.	Do.
78	Do.	13 2	6 5	6 5	8 0	4 0	3 3	21 2	S. 20° E.	Do.	
79	Do.	11 0	4 5	7 0	Ruined.		—	—	W. 10° S.	Do.	
80[a]	Do.	11 0	6 0 to 4 3	6 7	Impf.	3 0	4 8	—	S.	Do.	Do.
	PROV. KŌTSUKE.										
81	Ōmuro	17 0	6 6 to 5 0	5 9	26 0	4 0	5 6 to 7 0	48 0	S. 12° E.	Double, with two terraces and moat	Division between chamber and gallery marked by vertical slabs. Two similar slabs are set up 2 ft. from the entrance.

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No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. KŌTSUKE —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
82	Ōmuro	21 0	8 4	7 6	6 0	4 0	7 0	27 0	S 25° W.	Double, with one terrace and moat	Two low slabs set across the floor divide the chamber into two parts, and another separates the chamber from the gallery.
83	Oya	19 6	7 0 to 6 0	6 6	Stones removed.			—	S. 10° E.	Do.	
84	Nr. Oya	19 0	Back 9 2 Front 6 7	8 0 to 5 0	—	—	—	—	?	Do.	"Allée converte."
	PROV. MINO.										
85	Nr. Akasaka	12 6	4 2 to 5 2	6 6	17 3	3 0	4 10	29 9	S.E.	Simple conical	Chamber roof of four stones.
86	Do.	17 6	6 0	7 6	17 6	3 0	5 6	35 0	S.	Do.	Gallery in line with W. wall. Chamber roof of four stones.
87	Do.	17 6	4 0	—	—	—	—	—	S.E.	Destroyed	"Allée converte" in ruined condition.
88	Do.	27 0	4 4	—	—	—	—	—	S.	Do.	Do.
89	Do.	5 0	2 3	Roof stones removed.	Roof stones removed.	Imperfect.		—	S.	Do.	
	PROV. ŌMI.										
90	Fumon-mura	12 7	7 0	8 0	10 6	3 6	4 0	23 1	S. 23° W.	Simple conical	Chamber roof of two stones.
91	Taniguchi	11 6	6 6	8 9	10 0	2 9	4 0	21 6	S. 5° E.	Do.	Gallery in line with E. wall. Chamber roof of two stones.
	PROV. SETTSU.										
92	Sompachi	21 0	10 8	17 0	26 0	5 6 to 7 0	6 6	47 0	S. 20° E.	Terraced conical	Some huge stones in walls and roof. One measures *c.* 16 feet by 9 feet.
93	Sakura-mura	14 6	6 0 to 6 10	7 7	Impf. 10 6	3 6	3 9	—	S.	Simple conical	Chamber roof of three stones.
94	Nakayama	17 0	7 4	10 0	36 0	5 8	6 8	53 0	S. 30° E.	Destroyed.	Chamber roof of two stones. Contains a hewn stone sarcophagus.
95	Yamamoto	9 2	5 6	6 0	21 3	3 10	5 0	30 5	S. 10° E.	Simple conical	Contains fragments of terra-cotta sarcophagus. Roof stone *c.* 9 feet by 8 feet.
96	Do.	12 0	5 9	7 9	Impf.	3 5	5 0	—	S. 30° E.	Do.	

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No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H,				
		ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
	PROV. SETTSU —*continued.*										
97	Tsukahara	11 5	6 5	7 5	Do.	2 6	—	—	S.E.	Simple conical	Built of small boulders.
98	Do.	14 8	5 0	7 0	11 0	3 2	5 6	25 6	S. 5° W.	Do.	Gallery in line with E. wall.
99	Do.	14 8	4 5	6 8	2 10	3 4	4 2	17 6	S. 23° W.	Do.	Gallery in line with E. wall of chamber. Chamber roof of five stones.
100	Do.	9 7	5 0	—	5 0	2 7	—	—	S.W.	Do.	Gallery in line with W. wall of chamber.
101	Mi-no-hara	22 2	7 6	10 6	24 0	6 0	6 0	—	S. 25° E.	Ruined conical (terraced ?). Traces of moat	Contains two stone sarcophagi. Walls and roof of huge stones.
	PROV. SHINANO.										
102	Nr. Matsushiro	14 6	7 0 to 9 3	8 0	15 0	5 0	7 0	29 6	S. 30° W.	Simple conical	Chamber roof of four stones.
103	Do.	18 0	5 6 to 4 2	7 5	6 0	3 2	6 1	24 0	S. 35° W.	Do.	Gallery in line with E. wall. Chamber roof of four stones.
104	Do.	14 0	6 9 to 4 9	6 9 to 8 3	Impf.	4 0	6 0	—	S. 15° E.	Do.	Chamber roof of four stones.
	PROV. TAMBA.										
105	Rokuya, near Kameoka	14 4	6 9	9 0	9 0	3 6	4 0	23 4	S. 29° W.	Conical with two terraces	Rude stone shelf 5 feet 3 inches broad by 13 inches thick, projects from back wall. Chamber roof of two stones.
106	Do.	11 6	6 6 to 8 0	8 0	18 4	4 9	4 4	29 10	S.	Simple conical, ruined	Rude stone shelf 3 feet 7 inches broad by 14 inches thick, projects from back wall. Chamber roof of two stones.
107	Do.	12 0	7 2	7 6	22 0	4 0	—	—	W. 5° N.	Do.	Rude stone shelf 3 feet 10 inches broad by 15 inches thick, projects from back wall. Chamber roof of two stones.
108	Do.	11 9	6 5	8 6	4 0	3 0	—	—	S. 5° W.	Do.	Chamber roof of three stones.
109	Do.	13 6	5 0	—	Impf.	3 0	—	—	S. 23° W.	Do.	Chamber roof of two stones.
110	Do.	10 10	6 0	7 0	Do.	4 2	5 0	—	S. 23° E.	Do.	Chamber roof of one stone.
	PROV. TOSA.										
111[a]	Ryōseki	12 2	6 0 to 5 3	—	—	2 2	—	—	W.	—	
112	Do.	11 6	8 0	5 0	—	—	—	—	S. 25° E.	—	"Allée converte."

[a] 111 to 114 were reported to me by Dr. E. Naumann, late Director of the Geological Survey of Japan.

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No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. TOSA. —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
113	Ryōseki	9 0	7 0 to 6 0	—	Impf.	2 0	—	—	—	—	Roof stones all removed.
114[a]	Asakura	17 3	7 4	7 9	14 9	4 3 to 6 3	3 7	32 0	—	—	Built of well-squared blocks.
	PROV. YAMASHIRO.										
115	Andogahashi	17 10	8 5	11 4	26 2	5 2	5 8	44 0	S. 5° W.	Conical with two terraces and moat	Chamber roof of three stones.
116	Ōkamedani	12 0	8 0 to 6 9	10 0	28 0	4 6	5 5	40 0	S. 30° E.	Conical with one terrace	Chamber roof of two stones.
	PROV. YAMATO.										
117	Hirano.	9 9	4 10	3 10	4 8	4 6	3 10	14 5	S. 30° E.	Simple conical	Built of large well-squared blocks.
118	Samida.	22 2	8 7	11 0	26 5	5 1	4 1	48 7	S. 25° E.	Do.	Chamber roof of three stones.
119	Myōhōji	16 6	10 6	9 0	19 6	6 7	5 3	36 0	S. 23° E.	Do.	Built of large well-hewn blocks. The roof stone of the chamber measures 20 feet by 12 feet by 7 feet. Contains a hewn stone sarcophagus.
120	Nr Mise	20 0	14 0	14 0	14 0	4 3	5 0	34 0	N 25° E.	Double, with traces of two terraces	Gallery in line with E.S.E. side. Chamber roof of four stones.
121	Do.	24 0?	18 0?	?	60 0	4 0 to 8 0	8 6 to 10 0	—	S.	Double with three terraces and traces of moat	Built of immense rude megalithic blocks. Chamber contains two hewn stone sarcophagi. It is the largest dolmen in Japan. One of the roof stones is 16 feet long.
122	Nr. Teraguchi-mura	13 10	8 9	8 8	Imperfect.			—	S. 23° E.	Simple conical	Chamber roof of two stones.
123	Do.	20 6	9 10	11 9	26 0	5 10	6 10	46 6	S. 5° E.	Double	Chamber roof of four stones.
124	Yamaguchi	16 2	7 7	8 10	15 7	5 0	5 0	31 9	S. 5° W.	Simple conical	Chamber almost covered by one stone. Gallery in line with E. wall.
125	Narahara	18 4	9 10	13 4	9 0	5 0	7 0	27 4	S. 23° E.	Do.	Chamber roof of three stones.
126	Do.	16 9	9 3	11 0	17 8	4 6	5 7	34 5	S.E.	Do.	Chamber roof of three stones. One stone 8 feet by 9 feet.
127	Koshi	14 9	8 10	8 10	36 7	6 5	5 6 to 6 2	51 4	S 5° E.	Conical, with two terraces and a moat	Built of huge well-hewn blocks. Roof of chamber a single stone.

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No.	Locality.	Chamber.			Gallery.			Total L.	Direction of Entrance.	Mound.	Notes.
		L.	Br.	H.	L.	Br.	H.				
	PROV. YAMATO —*continued.*	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.			
128	Abe-mura	16 5	9 2	8 5	24 5	6 1	5 8	40 10	S. 5° W.	Simple conical	Walls of chamber of hewn stones in four courses. Roof of chamber a single stone.
129	Do.	14 8	8 3	6 11	23 9	6 5	5 3	38 5	E. 39° S.	Do.	Megalithic. Stones broken, but not hewn. Contains hewn stone sarcophagus. Chamber roof of two stones.
130	Do.	15 8	7 10	7 10	10 2	6 0	4 10	25 10	S. 20° W.	Do.	Built of rude megalithic blocks, one measuring 10 feet by 6 feet 3 inches by 5 feet 4 inches.

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TABLE II.—SARCOPHAGI IN JAPANESE DOLMENS AND BURIAL MOUNDS.

No.	Description.	Occurrence.	Locality.	Orientation.	External Dimensions.			Internal Dimensions.			Thickness of Sides.	Remarks.
					L.	Br.	H.	L.	Br.	D.		
					ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	inches.	
	STONE SARCOPHAGI.											The cover in all cases is a single hewn block.
1	Coffer of a single hewn block	In dolmen Tab. I. No. 8	Bizen. Nr. Okayama	S. 15° E.	—	—	—	5 4	2 3	—	6 to 7	Cover gone.
2	Do.	Do. No. 13	Buzen. Kuroda	W. 10° S.	7 11	3 10	—	6 3	2 4	1 9	9 to 10	Cover 1 foot 9 inches thick.
3	Coffer of hewn slabs	Do. No. 15	Harima. Nr. Himeji	S.	—	—	—	5 9	2 2	2 3	6½	Cover 1 foot 1 inch thick.
4	Coffer of natural slabs	Do. No. 21	Hōki. Nr. Kurayoshi	W. 15° N.	—	—	—	7 2	3 10	4 4	c. 6	Cover gone.
5	Coffer of hewn slabs	Do. No. 36	Izumo Imaichi	S. 30° W.	—	—	—	5 1	2 5	1 11	9 to 10	In outer chamber. Cover 11 inches thick.
6	Coffer of single hewn block	Do. No. 36	Do.	Do.	10 11	5 6	4 6	Top. 9 0 Bottom. 9 4	3 8 4 6	3 6	—	In inner chamber. Cover 1 foot 11 inches thick. Large opening hewn in front side.
7	Coffer of three hewn blocks.	Do. No. 37	Do.	S. 25° W.	—	—	—	7 4	2 9	1 6	7	Cover 1 foot 5 inches thick.
8	Coffer of single hewn block	Do. No. 38	Izumo. Enya, nr. Imaichi	W. 25° S.	9 1	4 4	4 1	Top. 7 4 Bottom. 7 9	2 10 3 3	3 2	7 to 10	Large opening. hewn in front side. Cover 1 foot 8 inches thick.
9	Do.	Do. No. 38	Do.	S. 25° E.	6 10	4 5	3 0	5 10	3 1	2 3	6 to 8	Do.
10	Do.	Do. No. 39	Izumo. Yasui, nr. Imaichi	S. 40° W.	—	—	—	6 6	2 7	1 7	8 to 9	Large opening hewn in front side. Cover 2 feet 2 inches thick.
11	Do.	Do. No. 39	Do.	Do.	—	—	—	7 1	3 2	1 3	6 to 7	Cover gone.

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No.	Description.	Occurrence.	Locality.	Orientation.	External Dimensions.			Internal Dimensions.			Thickness of Sides.	Remarks.
					L.	Br.	H.	L.	Br.	D.		
	STONE SARCOPHAGI —*continued.*				ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	inches.	The cover in all cases is a single hewn block.
12	Coffer of hewn slabs	Do. No. 40	Do.	S. 15° E.	—	—	—	4 11	2 3	1 8	7½	Cover 7 inches thick.
13	Do.	Do. No. 40	Do.	Do.	—	—	—	5 8	—	—	—	Ruined. Ends only left. Cover of two rough slabs.
14	Coffer of rudely hewn slabs	Do. No. 50	Kawachi. Hattori-gawa	W. 12° S.	—	—	—	5 7	3 1	2 5	17	Ruined. Cover a boulder hewn on lower side only.
15	Coffer of single hewn block	Do. No. 64	Kawachi. Dōmyōji-yama	S. 5° W.	7 0	3 3	2 6	5 8	2 3	1 4	7½	Cover 1 foot 3 inches thick.
16	Do.	Do. No. 65	Do.	Do.	6 9	3 4	2 5	5 7	2 2	1 3	c. 7	Do.
17	Do.	On summit of burial mound (conical)	Kawachi. Nr. Dōmyōji	S.	—	—	—	6 2	1 9	1 4	c. 5	Do.
18	Do.	In burial mound (ruined)	Kawachi. Nr. Furuichi	N 15° E.	—	—	2 1	5 8	Top. 1 10 Btm. 1 5	0 10	c. 5½	Cover 1 foot 5 inches thick. Head of skeleton N. 15° E.
19	Coffer of hewn slabs	Double mound	Kōtsuke. Ambori	W. 20° S.	—	—	—	5 9	2 3	2 7	c. 8	Cover gone.
20	Coffer of single hewn block	In dolmen Tab. I. No. 94	Settsu. Nakayama	S. 30° E.	5 10	3 6	2 4	—	—	—	—	Cover 1 foot 7 inches thick.
21	Do	Do. No. 101	Settsu. Mi-no-hara	S. 25° E.	6 7	2 9	2 3	5 5	1 11	1 2	c. 5	Cover 10 inches thick.
22	Coffer of hewn slabs	Do. No. 101	Do.	Do.	—	—	—	6 0	2 11	3 1	c. 9	Cover 2 feet 3 inches thick.
23	Coffer of single hewn block	Do. No. 119	Yamato. Myōhōji	S. 23° E.	7 9	3 9	—	6 1	2 3	1 6	9 to 10	Cover 1 foot 3 inches thick.
24 25	Do.	Do. No. 121	Yamato. Mise	One S. One W.	—	—	—	—	—	—	—	Dimensions unknown as dolmen full of water.
26	Do.	Do. No. 129	Yamato. Abe-mura	E. 39° S.	7 10	4 9	3 1	—	—	—	—	Cover 2 feet 1 inch thick.

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No.	Description.	Occurrence.	Locality.	Orientation.	External Dimensions.			Internal Dimensions.			Thickness of Sides.	Remarks.
					L.	Br.	H.	L.	Br.	D.		
	STONE SARCOPHAGI —*continued.*				ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	inches.	The cover in all cases is a single hewn block.
27	Coffer of single hewn block	In ruined dolmen	Yamato. Nr. Gose	S. 23° W.	7 10	3 10	3 6	6 2	2 6	1 9	c. 8	Cover 2 feet thick.
	TERRA-COTTA SARCOPHAGI.											
28	Coffer in one piece	In dolmen now destroyed	Settsu. Sakurai-dani	—	—	—	—	4 9	1 4	0 7½	c. 1	
29	Coffer in two pieces	?	Bizen. Isokami-mura	—	—	—	—	5 2	1 8	1 2	1½ to 2	

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XXI.—*The Domus Inferior or Frary of our oldest Charterhouses. By the Rev.* HENRY GEE, *B.D., F.S.A.*

Read 20th May, 1897.

ANYTHING that enables us to picture the life of our old monasteries cannot fail to prove interesting to students of English archæology; I venture therefore to call your attention to a very characteristic feature of our oldest Charterhouses which, so far as I know, has escaped the observation of those who have examined the history of monastic remains in this country.[a]

The two Charterhouses in question are Witham and Henton, in Somersetshire; the one founded by Henry II. in expiation of his guilt in the murder of St. Thomas of Canterbury, the other some half-century later by Ela, widow of William Longespée, earl of Salisbury, in pursuance of the intention of her late husband, an intention promoted and fostered by Edmund Rich, treasurer of Salisbury, afterwards archbishop of Canterbury. Both these monasteries possessed a *Domus Inferior*, which in England was called a frary, or "le frary," and the existence of this characteristic differentiates Witham and Henton from all houses of the same Order in England, for no other English Charterhouse, so far as I can discover, had a *Domus Inferior*, and, as we shall see, Charterhouses with this institution are entirely different both in design and life from those which have it not.

It may be well at the outset to give a very brief account of the *Domus Inferior* at the mother house of the whole Order, the Grande Chartreuse; for in the twelfth and thirteenth centuries, when new houses were regulated by monks from the house of St. Bruno, there was, the Carthusian annals show us, a very close conformity of design between the new and the old. It is highly probable that this general

[a] But see Dimock's *Magna Vita S. Hugonis Episcopi Lincolniensis* (Rolls Series 37), 384.

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correspondence was far more closely kept up for a century or two in the Carthusian Order than was the case with houses of other Orders. Those who have driven or walked from Grenoble to the Grande Chartreuse may remember that after crossing a bridge and entering the boundaries of the Desert from St. Pierre or St. Laurent they were shown a substantial set of buildings with a church, and so on. They imagined, perhaps, that they had reached the monastery, but this is not the Charterhouse proper, which is still an hour's journey on beyond. It is the *Domus Inferior*, which is locally called *Currière* or *Correrie*. In its beginnings it dates back to early in the twelfth century, but since that time it has passed through many vicissitudes of outward form and use. The main building is now used as a hospital; in the eighteenth century it was the printing and publishing department of the Order, and at other times it has been put to other uses.[a]

Now we are fortunate in possessing the early Customs of the Carthusians as they were drawn up by Guigo, the fifth prior of the Grande Chartreuse,[b] who was a contemporary of St. Bernard in the early twelfth century. And before we see what they tell us of the use of the lower house I may add here that these Customs were prefixed to all subsequent editions of the Carthusian statutes, and were carefully annotated by a competent authority in the seventeenth century, so that we are able to see not only the early customs, but side by side with them the changes which were introduced in later centuries, through stress of circumstance or by resolution of the general chapter of the Order. It is scarcely too much to say that nearly half the Customs of Guigo would be meaningless without the practical commentary of the *Domus Inferior*. Putting together what Guigo says, we are able to gain a tolerably clear conception of the place it held in the Grande Chartreuse and its life. It was, then, an entirely distinct establishment from the monastery proper, and stood at a much lower elevation on the mountain. It was the home of the *conversi* or lay brethren, who lived here under the supervision of the procurator. The monks proper, or fathers, who were all priests, lived in their cells on the mountain top with their own cloisters and church and other buildings. The fathers with their prior, like the elders with Moses in Exodus, c. xxiv., worshipped God on the mountain, whilst the lay people remained below. All noisy work was relegated to the *Domus Inferior*, the milling, the tanning, the carpentering, and so forth.[c]

[a] See *The Monastery of the Grande Chartreuse*, by a Carthusian Monk, 5, 209.

[b] Migne's *Patrology*, vol. 153.

[c] *Ibid.* cols. 667, 668, 669, 680.

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Such, then, was the design of the lower house. In order to carry it out a considerable number of ordinances were made, which it would be wearisome to enumerate. Reference may be made to a few of them. We have already seen that the *conversi* had their own church here; they also had a chapterhouse, a kitchen, and so forth. Rules were made for their regulation. The prior spent every fifth week in the lower house, but on ordinary occasions the procurator managed everything, with constant reference to the prior for advice. Full directions were given for the services of the lower church,[a] and for the private devotions of the lay brethren, which were often in their own language. The procurator[b] was their priest and minister, and was charged to retire frequently for prayer and meditation that he might edify them the more. As time went on, barns and buildings round the lower house increased, and cottages seem to have been built for male servants and *mercenarii* who were employed by the procurator on the monastic lands.[c] These *famuli* and *mercenarii* probably lived within the boundaries of the lower house, and never came higher than the entrance of the upper house, but the lay brothers came up on certain festivals, when they had their place reserved for them in the church and chapterhouse. The days on which they did so were carefully prescribed.

But besides being the monastery of the *conversi*, the lower house was utilized for other purposes. It was found convenient on occasion to transmit thither any who fell sick in the upper house, and the Customs prescribed the method of tending the sick monks there.[d] This usage was suggested by the milder atmosphere at the *correrie*. Visitors, too, were first received at the *Domus Inferior*,[e] and were not always allowed to proceed any farther. The commentator on the Customs tells us rather pathetically that the number of those who sought entertainment was very large, and it became necessary to preserve the quiet of the upper house by retaining such guests below. Rooms were provided for their entertainment.

It is time to turn from the type and theory of the *Domus Inferior* in order to see what traces of its existence can be found at Witham and Henton. It is *à priori* most likely that St. Hugh, for some years procurator in the lower house of the Grande Chartreuse, would reproduce at Witham an institution so familiar to himself, and indeed it is probable that in his time a Charterhouse without a *Domus Inferior* would scarcely have been considered a Charterhouse. In the

[a] Migne, 153, col. 723. [b] *Ibid.* col. 667. [c] *Ibid.* col. 681.
[d] *Ibid.* col. 667. [e] *Ibid.* col. 669.

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Magna Vita of St. Hugh,[a] one of the most interesting surely of medieval lives, we have ample documentary evidence as to the lower house at Witham. The writer describes St. Hugh's uncertainty as to the site of the greater and smaller churches;[b] he speaks of the "coetus gemini consistentium ibi monachorum et conversorum"; and when St. Hugh bids his last farewell, he takes leave first of the fathers, and then betakes himself to the dwellings of the lay brethren, and keeps vigil in their church.[c] And that church of the *conversi*, restored by Mr. White, still survives at what is called Witham Friary. For at Witham, though we know from what we have seen that there was an upper house, its remains exist no longer, and after some examination and much inquiry I have been quite unable to identify the exact site. It must probably be sought on rising ground, considerably to the east of the present Witham Friary. That it was quite separate is made clear by the particulars of grant to Ralph Hopton in 1544, to say nothing of the distinction intended by the word frary or friary. With the exception of the minor *ecclesia* there are very few structural remains of the lower house, but the large fishpond hard by is well worth a visit, for it seems to have been a regular fish-breeding establishment.

At Henton there was a slight modification of the original idea of a Charterhouse, in that the monastery itself was situate not in an *eremus*, as at Witham and other early houses, but in the park of Countess Ela. The monks would perhaps on that account be the more anxious to keep in all other respects as closely to the type of a Charterhouse as they could. And so, without doubt, they built the *Domus Inferior*, which we can still trace. The upper house is on a hill top, the lower is more than half a mile distant on the banks of the river Frome. We can still trace the winding path which leads up through Hinton Wood to the existing remains of the monastery. Along this road, once well paved, the procurator with his lay brethren passed up and down to keep the festival days at the upper house. It led probably to the smaller cloister where there were cells for the lay brethren, and offices in which they bestowed the goods which they had brought up from the house below. The procurator at Henton must have been relieved of one troublesome office which fell heavily on St. Hugh in the lower house at the Grande Chartreuse. There were probably no guests to entertain at the Henton *Domus Inferior*, for the configuration of the land proves that strangers approaching by the highway must have reached the upper house first; and an Exchequer deposition

[a] *Magna Vita S. Hugonis Episcopi Lincolniensis*, ed. J. F. Dimock, London, 1864 (Rolls Series 37.
[b] *Ibid.* 68. [c] *Ibid.* 219.

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proves the existence of a guest-house near the highway, and this *hospitium* still survived at the beginning of the seventeenth century. But to return to the lower house, we may still see, at what is locally known as "Friary," the old corn mill with its large reservoir, and another reservoir higher up, whilst a level spot is yet called "Old Church." In the rough wall which surrounds "Friary," there are remains of wrought stones, and the cottagers speak of foundations which they know to exist at no great depth beneath the surface of the ground.

But now comes the question, whether the *Domus Inferior* was kept up during the whole history of Witham and Henton. No other English Charterhouse, I believe, possessed a lower house, and it is clear that when after an interval of 150 years the London Charterhouse was founded, none was built there. By this time, the Carthusians tell us,[a] it was recognised in the Order that the Carthusian ideal was better kept by building a single large monastery, wherein all, both clerical and lay, were directly under the prior's eye. And so it seems to have become usual to change the *Domus Inferior* into an ordinary grange. This change, I believe, to have taken place both at Witham and at Henton. At Witham the circumstances are described. In 1458 the prior and convent of Witham petitioned the bishop of Bath and Wells for his license to erect a baptismal font within the frary church, and to consecrate a piece of ground near the same church as a cemetery. The document, which exists in bishop Bekynton's register, sets forth the reason of this startling request.[b] It is stated that in times past there were plenty of people to come forward and seek profession as lay brethren, and consequently there had been no lack of men to till the land and perform other offices within the *termini* of the monastery. All however was now changed, and they had no sufficient number of *conversi* to do the necessary work within the limits of the monastery. Meantime, the land could not be allowed to fall out of cultivation, and the fathers must live, and so the convent permitted secular persons of both sexes to dwell within the monastic boundaries and to build themselves cottages there. It was on behalf of these cottagers that the font was to be erected and the cemetery consecrated. As I understand the petition it amounts to an abandonment of the *Domus Inferior* after nearly 300 years service, and the prior now proposes to make it into a parish church or chapelry for the *mercenarii* and their families, withdrawing the lay brethren, who still existed, into the *Domus Superior*. In other words Witham was now conformed to the pattern of the later Charterhouses elsewhere.

We have ample proof in the Carthusian annals that the difficulty experienced at Witham was felt elsewhere and before this date. The general chapter of the

[a] Migne, col. 668.

[b] Add. MS. 6966, f. 89.

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Order in 1375, and again in 1387, drew attention to the fact that it was a flagrant violation of the first rules of the Order to allow women to live in any houses or granges in which persons dwelt in the Carthusian habit. The reference is clearly to the lower house, in which *conversi* dwelt, and it was most emphatically laid down in the oldest Customs that no woman might enter the *termini privilegiati*, as they were called, of upper or lower house.[a] But, evidently, through the dearth of labourers caused by the ravages of the Black Death, it was impossible to keep the lower house going, or to get adequate male service. The consequence of it all was that the monks were forced to allow cottagers with their families to live in and around the lower house. It was made an ordinance of the provincial visitors to inquire into this in 1392.

Thus then the lower house at Witham became a small village, and its original design was abandoned owing to causes which had been operating for some time. I believe that the same change took place at Henton. There is a very curious entry in Bishop King's Register under date 1498.[b] It contains a license to the Prior of Henton to transfer certain bodies which had been buried "in a profane place among bushes and other venomous beasts" (so it runs) to consecrated ground. Now surely it would not be necessary to get the bishop's license to exhume bodies that had been buried, say, in a wood. Is it too bold a conjecture to suggest that the *minor ecclesia* with its cemetery had been given up, and the *Domus Inferior* converted into a grange long before 1498, and that if so the site of the cemetery had meanwhile become overgrown with bushes, so that the father prior now desired to transfer from it to the cemetery of the upper church those who had been buried below? But that is not my only reason for believing that the Henton *Domus Inferior* had been converted, and its church pulled down, for I find in the particulars of grant that there is no mention whatever of the buildings distinctive of a lower house. Indeed a document exists which shows that buildings in the Frary had been leased out before the dissolution of the monastery. It only remains to add that there was no need for baptismal font or cemetery at Henton Frary, as there was a church in the village of Henton, and another at Freshford which is close to the Frary.

[The general documentary authorities for this paper are the *Consuetudines* of Guigo in Migne's *Patrologia*, vol. 153; *Statuta Ordinis Cartusiensis*, 1510; *Nova Statuta*, 1736; *Annales Cartusienses*, and *Ephemerides Cartusienses*, lately printed. The best modern edition of the Statutes is *Disciplina Ordinis Cartusiensis*, Montreuil, 1894. For the Wells Registers, see the Hutton Transcripts, Add. MS. 6966.]

[a] Migne, col. 681.

[b] Add. MS. 6966, f. 153.

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A SIXTEENTH CENTURY MATHEMATICAL INSTRUMENT CASE (FRONT AND SIDE VIEWS). FULL SIZE.

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APPENDIX.

A Sixteenth Century Mathematical Instrument Case.

January 21st, 1897.—Percy G. Stone, Esq., F.S.A., exhibited a case of Mathematical Instruments of the sixteenth century, upon which he read the following notes :

THIS instrument case, which I have the honour to lay before you, is the property of Dr. English, of Sleights, Yorks, by whose courtesy I am enabled to exhibit it this evening. Of its history nothing is known beyond the fact that it was acquired by the owner's grandfather; an extensive collector of interesting *objets d'art*. That it was made for some influential or wealthy person is evident from the care bestowed on the workmanship of the case, and the elaborate finish of the instruments.

Device on top of a Sixteenth Century Mathematical Instrument Case. (Full size.)

The case, which is of gilt brass, is four-sided, each side being 2⅜ inches wide, and closed at the angles by ornamental balusters of refined detail, supported on cherubim feet. (Pl. XLII.) The total height is 7½ inches. The lid is hinged and secured on the front by a hasp and cruciform rim lock highly engraved. The sides are ornamented with classically draped figures of Peace and War with their attendant satellites Abundance and Poverty. The front panel, Peace, represents a figure seated to the left, the left hand on an urn, the right apparently holding the cover. In the left top corner is a dove with an olive branch in its beak. The legend, which is engraved on the lock case, is *Par orbi exopstatissimi*. The right hand panel has a figure seated to the front, the head inclined to the right. In the left hand a branch bearing fruit and leaves, in the right a small scroll. To the right of the figure a group of fruit and cereals. Above in a scrolled

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border the legend *Abundantia Pacis filia* The left side panel contains a figure seated to the left, the body to the front. In the back ground are a house in flames and a leafless tree. The legend is *Pauperies Belli filia*, enclosed in a border as before. On the back panel War is represented as a helmeted female seated with the head inclined to the left. The left hand holds a palm branch, the right leans on a cuirass or panoply of the conventional classic form. Behind the figure is a lance and spear. The legend above is unusual and significant, *Bellum fax Mundi*. The figures of War and Abundance are superior in conception and execution to those of Peace and Poverty, and are rather Italian in feeling.

The top bears a crowned lion passant gardant within an ornamental border of the usual Elizabethan form, while the whole of the inside of the lid is filled with an elaborate engraved panel of foliage work. On the bottom within a plainer cartouche is the name of the maker, *Barthelmewe Newsum*.

Maker's name on a Sixteenth Century Mathematical Instrument Case. (Full size.)

The top and bottom rims of the case are enriched with a chased cable moulding, and the frieze round the lid is engraved with a foliage scroll of very refined detail.

The instruments, which are fitted upright into a hard wood receptacle capped with brass pierced to receive them, are elaborately chased and gold washed. (Pl. XLIII.) They were originally twenty in number consisting of

1. A pair of scissors.
2. Two knives with interchangeable blades.
3. Three knive blades (*missing*).
4. A sharpening hone.
5. A foot rule, English measure.
6. An angle or set square.
7. A sector? (*missing*).
8. A penholder with nib.
9. A pencil-holder.
10. A pricker.
11. A beam compass, for describing large circles.
12. A compass pen.
13. A drawing pen.
14. A pair of proportional dividers.
15. A pair of square dividers, steel pointed.
16. A large pair of compasses, 6 inches.
17. A smaller pair of compasses, 3 inches.
18. A smaller pair of compasses, steel pointed, $2\frac{7}{8}$ inches.
19. A smaller pair of compasses, 2 inches.
20. A smaller pair of compasses, $1\frac{1}{2}$ inch.

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SET OF MATHEMATICAL INSTRUMENTS OF THE SIXTEENTH CENTURY. (FULL SIZE.)

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The accurate finish of these instruments is remarkable, and the double action of the beam compass worthy of notice.

Of the maker, Bartholomew Newsome, little is known beyond the fact that he was a clock and dial maker of London, who flourished during the reign of Elizabeth and died in 1593. The only other work of his that I have come across, a small pedestal striking clock in the British Museum, is inferior, both in design and execution, to this instrument case. As the Clockmakers' Company was only incorporated in 1631, Newsome's name naturally does not appear in its records, and I have failed to discover any mention of him among the books of the Blacksmiths' Company, to which clockmakers, prior to 1631, belonged.

From *Former Clock and Watchmakers and their Work, by* F. J. Britten,* I extract the following notes:

"Bartholomew Newsam or Newsham, one of the earliest makers of portable clocks whose work survives, lived in the Strand. In Calendar of State Papers is a grant in 1572 to B. N. (Barth. Newsam) of the office of clockmaker to the Queen, in reversion after the death or surrender of N. U. (Nich. Urseau), the then royal clockmaker. In 1583 there is a letter dated Aug. 5th, from Bartilmew Newsham to Sir Francis Walsyngham, desiring him to favour the writer's petition to Her Majesty for the augmenting a certain number of years wherein he had moved Sir Philip Sydney to speak for him. In 1590 is a grant to Bartholomew Newsham of the office of clockmaker to the Queen, vice Nicholas Urseau, deceased.

By his will, 1586, he bequeathed to his apprentice his 'seconde clock,' to a relative his 'best vice save one, a beckhorne to stand upon a borde, a great fore hammer and to hand hammers a grete large beckhorne in my back shoppe.' To different friends he left 'a sonne dyall of copper gylte,' a 'cristall jewell with a watche in it garnished with gould,' a 'watche clocke in a silken purse,' and a 'sonne dyall to stande uppon a post in his garden.' That he intended his son to carry on the business is evident from the clause 'all the rest of my tooles I give unto Edward Newsom my sonne with condicion that he become a clockmaker as I am, yf not I will the foresaid tooles to be sould by my executors.'

As I can find no record of this Edward Newsom we may conclude he did not follow his father's business, or that he died before he took out his livery.

With regard to the original owner of the case, it seems more than probable that it was made for Queen Elizabeth herself, perhaps a present from her clockmaker. The lion on the top is, as charged on the royal arms—gardant passant; and there is no motto or armorial shield, as one would suppose would have been the case had it been made for a nobleman or gentleman of the period."

* London, 1894.

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Notes on a Silver Dish with a figure of Dionysos from the Hindu Kush.

March 18th, 1897.—Charles H. Read, Esq., Secretary, exhibited a Silver Dish with a figure of Dionysos from the Hindu Kush, on which he read the following notes :

"The silver dish (Pl. XLIV.) I have the honour to exhibit was found in August, 1892, near Buddhigharra, about four miles west of Tank, a town in the Dehra Ismail Khan district of the Punjab, and formerly the capital. It was discovered by a native on one of the mounds common in the district, and seems to have been exposed by heavy rains. With it were found what are described as a silver cup and saucer, but these were unfortunately melted before they were seen by Europeans. The dish was ultimately given by a friend to Mr. M. Longworth Dames, divisional judge at Jehlam, who very kindly offered it as a gift to the British Museum.

I may state, as an apology for the little real information I can give about it, that, although I circulated photographs to all my friends familiar with Indian archaeology, none could give me the least information, as to date, or as to what people had made it, nor where another such representation could be found. The one man who could perhaps have put me on the track was the late Sir Alexander Cunningham, whose vast knowledge of Indian antiquities was equalled by his generosity in imparting it.

The dish is made of a plate of silver, apparently, from the colour of the oxide, alloyed with copper, and the design has been executed by the *repoussé* process from behind, and finished in front by chasing. In the centre is a circular medallion, surrounded by radiating wavy flutes, increasing in width towards the circumference, where they form a scalloped edge. The central subject is a man seated, nearly naked, drinking from a rhyton held in his upraised right hand and holding the neck of a full wine-skin in his left; upon his right hand is seated a woman holding a cup in her left hand and a garland in her right. This figure is small in proportion to the man. The whole is surrounded by a thick grape vine, with grapes and leaves growing from each side. The background and some details are gilt. The man wears a crown of vine leaves and grapes, grapes as earrings, and curly hair and moustache; round his neck is a necklace or torc and bracelets on his wrists. He is shod in buskins, with curled-over toes, reaching to the calf of the leg. He would appear to be seated on the ground, and across his thighs is carelessly cast what may be a loosened waist-band; but in its present position it leaves the figure somewhat more obviously naked than is usually the case in ancient Indian art.

The figure of the woman is clearly intended merely as an appropriate accompaniment of the subject; and the difference in proportion is evidently intended to accentuate the importance of the male figure. She is dressed in a mantle fastened on the breast, hair in a plait down the back, and with a stout twisted waist-band from which descends a garment concealing the feet as she

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SILVER DISH FROM THE HINDU KUSH.
(FULL SIZE.)

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sits. The style of this figure very nearly resembles that of Hindu sculptures of medieval times, and taken alone can scarcely be said to indicate any influence outside Indian art.

In the male figure on the other hand are found several details pointing to a connection with Central Asia, and perhaps remotely with Greece. In the first place the presence of the vine, itself not an Indian plant, would connect the subject with the more temperate regions to the north; and it may fairly be inferred that the wine in the skin, which he is drinking from the rhyton, is the juice of the grape. The form of the rhyton itself is not Indian, but finds its closest analogue in Greek art. The head of the ibex, or some kindred animal, which forms the lower part of the vessel, is very cleverly drawn, and shows clearly that the artist was familiar with the salient points of the animal. The line joining the end of the rhyton to the mouth of the drinker may possibly be a tube to be placed in the mouth, but I rather think it is a conventional representation of the stream of wine passing from the mouth of the vessel. The wearing of a moustache alone also is rather a character to be found in the early sculptures of the north-west frontier of India. In the Buddhist sculptures from Yusufzai, the kings or Bodhisats are commonly represented with such a moustache as is seen here, and they have also the heavy coiled hair dressed in a similiar fashion. The buskins also with their curled toes are of Central Asian style. These peculiarities, coupled with the unusual nudity of the figure, lead me to think that we have here a design from the hand of a craftsman whose training was rather that of perhaps Bactria, or at least Central Asia, with a lingering trace of classical influence, than truly Indian. In fact there would seem to be every reason for supposing that it was made in the country where it was found.

The country called by the Greeks Paropamisus seems to have been scarcely included in Bactria, or at any rate formed its boundary on the Indian side. It is inhabited now, and probably was also in ancient times, by a hardy race of highlanders, very different from the typical Hindu of the plains. They were theoretically, at any rate, included in the conquests of Alexander the Great, and it was here that, according to Ptolemy, Bacchus came on his journey to India. This latter tradition, though of no historical value, has at least a bearing upon our present subject. It shows that in the classical mind the district in question was associated with Bacchic festivities, and the occurrence of such representations as we have upon this dish would naturally be frequent upon the utensils of banquets.

That the Greek language, and probably a certain measure of Greek culture, was firmly planted in Bactria and the surrounding states that came under Alexander's sway is shown by the coins of his successors, who up to about the Christian era used on their coins Greek legends and afterwards Greek characters for native titles. These by degrees, as the classical influence declined and the Scythians overran the country, became illegible and finally died out, being superseded by the native characters.

At a period which is at present not accurately determined, but probably about the beginning of the Christian era, a very high state of culture existed in the Yusufzai district on the borders of Afghanistan. This was under the influence of Buddhism, and though the art bears the decided impress of classical style, the scenes represented, being uniformly either scenes in the life of Buddha or portraits of his votaries or disciples, are very remote in character from that which we

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are now considering, and it would scarcely be suggested that such an object could be the work of the same artists who built the elaborate monasteries of Yusufzai, of which numerous remains can be seen in the Buddhist Gallery at the British Museum.

Probably towards the end of the third century A D. the Sassanian rulers of Persia absorbed the district of Paropamisus into their empire, and imported their peculiar art into the country. With Sassanian art we are now fairly familiar, and it may safely be said that the style of the work before us does not seem to belong to that school.

In the collection of Sir Wollaston Franks, our President, at the British Museum is a typical Sassanian dish, probably of fourth century work. If these were placed side by side the more restrained and severe style of the Sassanian composition would be very marked.

So much for the country in which the dish was made.

As to the person represented, I think there can be no question that we have only to decide between a god and a monarch. He can scarcely be the latter, for several reasons. There is an entire absence of anything that can be called an attribute of royalty, and the evident state of abandonment of the principal figure is scarcely likely to have been chosen by an artist of the court as that in which it would be fitting to represent his master. The vine crown shows, I think, that we have here a god, and that the god is Dionysos is probable, not only from this small but convincing feature, but by the propriety and probability of finding many representations of Dionysos in the country in which Ptolemy places his Dionysopolis, and where the head of the god on the one side and his panther on the other formed the entire design of the coins of one of the successors of Alexander in Bactria (Pantaleon, King of India, 170 B C).

The qualities attributed to Dionysos and to Heracles seem to have been peculiarly suited to the temperament of the hardy mountaineers of the Hindu Kush in late Greek times, and I think that in a modernized form the two cults are still existent there.

I do not mean to imply that the date of the dish is so early as these Greek rulers. There is, in fact, nothing classical about it beyond a mere detail such as the rhyton as a drinking vessel. If we take the opposite extreme of date we find that in the eighth century the Paropamisus became Muhammadan from its conquest by the Moslem rulers of India. Not only from the nature of the scene represented, which is absolutely opposed to the teachings of the Koran, but also from the style of the work, the dish can scarcely be thought to belong to this period.

Its date, then, would be somewhere between the third and the eighth century A.D., a sufficiently wide margin; but in our present state of knowlege of the ancient art of this part of the world, due to the limited number of specimens existing, it seems impossible to produce evidence for greater precision. But short of actual proof of its origin, there is certainly some slight gain in showing what it is not. If it be not Bactrian-Greek work, nor Sassanian, nor Muhammadan, but later than the first and earlier than the last, a *locus pœnitentiæ* might be found for it as Indo-Scythian. During the struggles of the Sassanian rulers with the Roman power it is quite possible that the natives of the Hindu Kush may have been left to their own devices, to practice their worship of Dionysos undisturbed by the propaganda of Zoroaster, or any other creed."

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